

Physical Activity and Teachers' Attitudes: Exploring School-Based Activity for
Students with Exceptionalities

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Abstract

Two purposes guided this study. First, the researcher explored in-service teachers' perceptions of the benefits and barriers physical activity had on students with exceptionalities in school-based activities. Second, the researcher explored in-service teachers' perceptions of physical activity and how their attitudes affected student's learning.

One hundred and fifty eight in-service, postgraduate (teachers taking courses in Education) and graduate teachers (teachers taking graduate level courses) volunteered to participate in this study. In-service teachers teaching in Kindergarten to grade 12 classrooms were either employed with a rural school division in Central Saskatchewan or a rural school division in the West Kootenay region of British Columbia. Data was collected using adapted versions the *Physical Educators' Attitude Toward Teaching Individual with Disabilities-III (PEATID-III)* (Rizzo, 1993) and the *Physical Educators' Judgement about Inclusion (PEJI)* (Hodge, Murata, & Kozub, 2002) in this study. Volunteered participants completed the amalgamated adapted survey titled, *Physical Educators' Judgments and Attitude Towards Teaching Individuals with Exceptionalities*.

Pearson correlation analysis was used to determine the relationship between teacher characteristics (e.g., gender, age, whether participants had taught physical education, participants ratings of fitness) and the six survey subscales (e.g., outcomes of teaching students with exceptionalities, effects on student learning, need for more academic preparation, judgement about inclusion, judgement about acceptance of students with exceptionalities, and judgement about perceived training needs) to investigate if there were any statistically significant relationships. An analysis of

variance (ANOVA) was also used to examine potential differences between teachers' attitudes toward instructing students with exceptionalities and the teacher characteristics (number of special education courses taken, years of teaching experience with exceptionalities, and number of adapted PE courses taken). All six subscales were examined compared with teacher characteristics to find potential differences between teachers' attitudes toward instructing students with exceptionalities and varying levels of experience and pre-service training.

Results showed years of teaching experience and academic preparation influenced teachers' attitudes towards instructing students with exceptionalities. Physical education teachers who had more additional training had higher self-reported ratings of their ability to teach physical education to all students than physical education teachers with less additional training. Results also indicated the older teachers were, the more negative attitudes they had toward wanting students with exceptionalities in their classrooms. These results support the body of evidence that shows there is a need to promote positive attitudes in the schools toward teaching individuals with exceptionalities physical activity.

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Dedications

This thesis is dedicated to my Mom and Gumpa.

*To my mom for being an amazing role
model and for believing in me.*

*To Gumpa and my Mom
for instilling the importance of education.*

I am forever grateful!

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Chapter 1: Introduction

Obesity rates for Canadian children and youth obesity have tripled in the last 25 years (www.healthycanadians.gc.ca). Due to the increased rate of childhood obesity, society has been encouraging healthier meals and physical activity with families. Schools have been trying to promote children to be more active and to participate in daily physical activities. However, some schools have cut physical activities to make room for academic classes (Corbin & McKenzie, 2008). Faulkner and Reeve (2000) claimed that cutting down physical education classes in the schools would not be sensible since, “PE classes may provide some children with their only opportunity to exercise” (p. 311). Physical education is just as important as the academic subjects, if not more important, to students with exceptionalities (Williams & Germain, 2008). Kleinert et al. (2007) stated that children with exceptionalities benefit from physical activity within the school system and community. Children with exceptionalities often have communication and social skill deficits. Physical activity can be beneficial since it gives children with exceptionalities the opportunity to develop critical skills (social skills, gross motor and fine motor) needed for participation during activities (Kleinert et al., 2007). The need to promote physical activity for students with exceptionalities is important, especially if they are only able to participate during school time.

Researchers have tried to examine how to promote physical activity within the school when teaching students with exceptionalities. Studies have looked at promoting physical activity by adding physical activity throughout the day or educating teachers on how to promote physical activity (e.g., Faulkner & Reeves, 2000; Kowalski & Rizzo, 1996; Rizzo & Kirkendall, 1995). Faulkner and Reeves (2000) used a variety of

instruments to examine the perceptions and attitudes of primary teachers toward teaching physical education. They found teachers had limited training teaching physical activity and were not active themselves. This limited training and inactivity lead to a negative outlook towards their own physical conditions, which in turn affected their teaching (Faulkner & Reeves, 2000). Limited prior education in teaching students with exceptionalities, and not valuing physical activity, has been the cause of inconsistent physical activity programs within the school system (Kowalski & Rizzo, 1996; O'Bryant et al., 2000). In addition, the lack of adapted courses at the undergraduate level limit teachers' abilities to feel confident in teaching students with exceptionalities, which can lead to negative attitudes towards teaching students with exceptionalities (Kowalski & Rizzo, 1996).

Little research has been done on the importance of implementing physical activity programs for children with exceptionalities. Rizzo's (1991, 1995, 1996) research relates to the factors that influence teachers' attitudes and may limit their ability to teach physical activity to students with exceptionalities. Teachers' attitudes toward the ability to teach physical activity may act as barriers to teaching students physical activity (Faulkner & Reeves, 2000; Kowalski & Rizzo, 1996; O'Bryant et al., 2000; Parks et al., 2007). Other identified barriers to teaching physical activity to students with exceptionalities, included: cost, travel, time, qualified physical education teachers, and effective physical education programs within the school and community (Klein et al., 2005; Kleinert et al., 2007; O'Bryant et al., 2000).

1.1 Statement of Purpose

Researchers have focused on the need to promote effective physical education

programs within schools and communities due to global increases in obesity among children and adolescents (Salmon et al., 2007). Even though research has proven early intervention in physical activity to be beneficial, some schools may have difficulties implementing a successful physical education program for students (Corbin & McKenzie, 2008; Salmon et al., 2007; Williams & Germain, 2008). For example, the population being studied could be young and therefore difficult to research. That is, this population is influenced highly by parents, educators, and friends making it extremely difficult to get a definite result as to why early intervention on physical activity has not been successful. Positive teacher attitudes have been found to be beneficial in implementing effective physical activity for students with exceptionalities. However, it is often difficult to examine individuals' attitudes since attitudes are subjective (Faulkner & Reeves, 2000; Kowalski & Rizzo, 1996; Rizzo & Kirkendall, 1995).

The need to research physical activity and children with exceptionalities is crucial since obesity rates rise every year with typical children and youth (www.healthycanadian.gc.ca). If the obesity rates are on the rise for typical children and youth, then individuals with exceptionalities who are less likely to be actively involved in physical activity may be at risk (Kleinert et al., 2007). In addition, research that has been completed in this area has stated that it is important to consider physical activity for children but has been less successful in stating how to implement daily physical activity within the school environment (e.g., Corbin & McKenzie, 2008; Horvat & Franklin, 2001; Mulrine, Prater & Jenkins, 2008). This information is not only lacking for typical children and youth but for individuals with exceptionalities. Therefore, it is important to consider if and how physical activity and teachers' attitudes are related to explore the

benefits and barriers of providing school-based physical activity to students with exceptionalities. Specifically, this study investigated the following research questions:

1. How do teachers' characteristics relate to their attitudes toward teaching physical education to students with exceptionalities?
2. How do teachers' attitudes toward instructing students with exceptionalities differ with varying levels of experience and pre-service training?

1.2 Definitions

1.2.1 Exceptionality. The term *exceptionality* has been used broadly throughout the years. There is not one definition for the term, but “most definitions have focused predominantly on children’s educational difficulties” (Mash & Dozois, 1999, p. 4). However, Mash and Dozois (1999) stated that the term has come to be used more broadly with children who are different from the norm. Currently, the term exceptionality is used to characterize “children with behavioural, social, and emotional disturbances, learning difficulties, sensory impairments, speech and communication difficulties, neurological impairments, physical handicaps, intellectual and developmental disability, chronic health problems, and those who are considered gifted or talented in some way” (Mash & Dozois, 1999, p. 4).

1.2.2 Physical Activity. Casperson, Powell, and Christenson (1985) defined physical activity as:

any bodily movement produced by skeletal muscles that result in energy expenditure. Physical activity in daily life can be categorized into occupational, sports, conditioning, household, or other activities. Exercise is a subset of physical activity that is planned, structured, and repetitive and has as a final or an

intermediate objective the improvement or maintenance of physical fitness.

Physical fitness is a set of attributes that are either health- or skill-related. The degree to which people have these attributes can be measured with specific tests (p. 126).

1.2.3 School-based physical activity. Lee, Burgeson, Fulton and Spain (2007) defined school based physical activity as, “programs consisting of physical education and other physical activity opportunities including recess and other physical activity breaks, intramurals, interscholastic sports, and walk and bike to school initiatives” (p. 435).

1.2.4 Attitudes. Attitude denotes a stance a person upholds and cherishes relative to objects, issues, persons, groups, or institutions (Sherif, Sherif, & Nebergall, 1965).

1.2.5 Physical Education. The unique learning opportunities in physical education are engaging and motivating for many students and allow all students from Kindergarten to Grade 12 to acquire the knowledge, skills, and attitudes that enable them to enhance their quality of life through active living—a way of life that values physical activity as an essential component of daily routines and leisure pursuits (British Columbia Ministry of Education, 2008).

1.2.6 Physical Literacy. People who move with competence and confidence in a wide variety of physical activities in multiple environments that benefit the healthy development of the whole person ([www. phecanada.ca](http://www.phecanada.ca)).

1.2.7 Perception. Omrod (2011) defined perception as "one's interpretation of stimuli" (p. 182).

1.3 Significance of the Study

Teachers’ attitudes regarding the effectiveness of teaching physical activity to

students that are typical and exceptional are important to consider for a number of reasons (Kowalski & Rizzo, 1996). First, teachers who value physical activity for themselves may promote physical activity to their students in a positive manner (Faulkner & Reeves, 2000; Parks et al., 2007). If teachers do not value, or lack the skills of physical activity, it may lead to negative attitudes while teaching. This in turn may affect how the students value physical activity. Second, teachers that are not confident in participating in physical activity may not portray confidence in teaching students that are typical or students with exceptionalities. Lacking in physical activity skills would only heighten the stress if expected to teach a diverse class of students (Faulkner & Reeves, 2000; Parks et al., 2007). Lastly, teachers that do not value physical activity may also not have the background knowledge or education of how to effectively teach a diverse class of students with exceptionalities. The lack of adapted physical activity courses in teacher training programs at the undergraduate level are a negative foundation for teachers who are teaching students with exceptionalities (Kowalski & Rizzo, 1996; Rizzo & Davis, 1991; Rizzo & Kirkendall, 1995). The lack of knowledge of how to adapt lessons for students with diverse abilities leads to negative attitudes. The content based knowledge provided to undergraduates in teacher training programs needs to be increased to promote a positive and active environment at the school level (Kowalski & Rizzo, 1996; Parks et al., 2007). This study explored in-service teachers' attitudes towards teaching school-based physical activity to students with exceptionalities. Findings will help inform best practice in teaching physical education to students with exceptionalities by exposing educators to: the limitations and barriers that students with exceptionalities face, and how teachers' attitudes restrict students development.

1.4 Chapter Organization

A review of the literature related to typical students and students with exceptionalities participating in physical activity, and how teachers' attitudes may affect participation follows in Chapter 2. A description of the research methods and procedures used is presented in Chapter 3, while analyses of the data are presented in Chapter 4. The final chapter, Chapter 5, provides a summary of the findings and discusses limitations of the study, implications for practice, and directions for future research.

Chapter 2: Literature Review

The review of this literature related to physical activity and teachers' perceptions and attitudes during elementary and secondary school is divided into two major sections. The first section critically reviews literature related to the benefits and barriers of physical activity within the general population of children and children with exceptionalities. The second section examines teachers' attitudes and perceptions towards teaching physical education to students who are typical and exceptional.

2.1 Physical Activity

2.1.1 Benefits of Physical Activity with General Population. Promoting physical activity among children has been a topic of great interest since globally children have been showing obvious signs of being overweight or obese. A Canadian study looked at data from 4161 pre-school children that were born in 1996, to see what percentage were overweight or obese. The researchers discovered that 25.6 percent of the pre-school children were overweight or obese (Canning, Courage, & Frizzell, 2004). These results indicated that a high proportion of children from 3 to 5 years of age in Newfoundland and Labrador were obese or overweight. This data supports the need for early intervention to occur before the age of three. Shaya, Flores, Gbarayor and Wang (2008) claimed, "The prevalence of overweight [children] has doubled for US children aged 6- 11 years and tripled for American teenagers over the past two decades" (p. 190). The need to make individuals aware of related health risks is imperative with obesity rates on the rise. Childhood obesity is related to many different health risks, including: "pediatric hypertension and association with type 2 diabetes mellitus, orthopedic complications, increased risk of coronary heart disease, and increased stress on weight-

bearing joints” (Shaya et al., 2008, p. 190). Early intervention has been promoted to try and educate children about physical activity and healthy eating. However, educating children about being active is not always successful due to the age of the population being considered. When studying young children, parents control the home environment and how their child is educated. Therefore, we see rising rates of obesity and overweight children (Valois, Umstattd, Zullig, & Paxton, 2008). Obese children tend to end up being obese adolescents (Hippel, Powell, Downey, & Rowland, 2007; Valois et al., 2008). Once they are in their adolescence, youth tend to participate less in physical activity despite the positive aspects physical activity has to offer (Valois et al., 2008). Valois et al. (2008) claimed:

Participation in physical activity for teens has been associated with decreased anxiety and depression, improved academic performance, improved parental relationships, increased self-esteem, decreased anger, decreased psychological stress, lower levels of mental health problems, reduced drug use, satisfaction with mandatory gym classes and increases in quality of life/perceived life satisfaction.

(p. 322)

Neuroscientists have also begun to study the effects physical activity has on the brain. They have found an increase in activity increases the oxygen flow in the brain, which then increases the blood flow into various parts of the brain that deal with memory, spatial perception, attention, language, and emotion (Mulrine et al, 2008). Mulrine et al. (2008) claimed “exercise impacts oxygen levels in the brain, with resulting effects on brain chemistry, cerebral metabolism, and growth and development, establishing the link between exercise and learning” (p. 17). Neuroscience studies suggested, “exercise is

highly correlated with neurogenesis, the production of new cells...which improved learning, memory, and depression” (Jensen, 2008, p. 6). Jensen (2008) stated schools needed to focus on the brain and the benefits that physical activity has on the brain. If the brain is taken into consideration when teaching, it will help students with cognition, attention, classroom discipline, and memory (Jensen, 2008). Looking at brain-based education is just one way of trying to help students and teachers learn more about the benefits of physical activity.

A variety of health risks are increasing in our society, resulting in educators and researchers attempting to develop ways of educating the general public about the importance of physical activity (He & Evans, 2007). Promoting physical activity at a young age helps individuals to be active later on in life (Jackson, Crawford, Campbell, & Salmon, 2008; Schneider & Lounsbery, 2008). Action to promote children to be physically active would have to start by educating parents or the institution that the children are attending. He and Evans (2007) investigated Canadian parents’ perceptions of their child’s weight compared to the actual weight of their child. A large proportion of the parents did not recognize that their children were overweight or obese (He & Evans, 2007). The parents in the study also did not see themselves as overweight or obese, when they were. However, He and Evans’ (2007) study also considered weight discrepancies between different ethnic groups. There were higher misclassified weights in non-Caucasian parents than in Caucasian parents (He & Evans, 2007). These misclassifications could be due to cultural differences related to how non-Caucasians perceived weight to be compared to the general Canadian standards of overweight and obesity. If parents are unaware their child is *at risk*, then they will not take the steps

needed to help them learn how to live a healthy life (He & Evans, 2007). However, Jackson et al. (2008) claimed “just over 50% of parents reported they were concerned their child was not getting enough activity...children of concerned parents were less active than those whose parents were not concerned” (p. 274). Unlike He and Evans (2007), who stated that the parents were unaware of their children’s weight, Jackson et al. (2008) claimed that the parents who were *aware* were the ones that did little physical activity and did not have a supportive home environment. In both of these studies parents were not being physically active with their children. Conversely, research has shown that physical activity behaviours are learned and supported by the home environment, since young children are influenced by how the parents define and value physical activity (Jackson et al., 2008).

This leads one to question, how could children be educated in physical activity if it is not practiced at home? Schneider and Lounsbery (2008) explained that since, “almost 80 percent of children with working mothers spend nearly 40 hours a week in childcare, there is a clear need to provide adequate physical activity opportunities in these settings” (p. 19). With obesity rates rising, daycare would be a great environment to start teaching children how to engage in healthy behaviours. However, Schneider and Lounsbery (2008) stated, “children are not meeting the physical activity recommendations and that they are sedentary during a significant portion of the time they spend in childcare settings” (p. 20). The need to promote physical activity within these institutions would have to start by educating the individuals running the daycare or school. Little research has been done on physical activity within the daycare setting, which could be because of perceived “difficulty of measuring the physical activity of this

population” (Schneider & Lounsbery, 2008, p. 20). For example, this could include difficulty trying to measure pre-school activity at such a young age, or difficulty gaining ethical approval to measure this population (Schneider & Lounsbery, 2008). However, more research in promoting physical activity has been focused at the school level when dealing with children.

Schools can be an ideal place to educate and promote physical activity to students and parents. Corbin and McKenzie (2008) stated, “schools are the most cost-effective locations for physical activity promotion and physical education, when delivered by teachers armed with proven activity-promotion methodologies, is the best method for promoting lifelong physical activity and health” (p. 50). There are a variety of opportunities within the education system to promote physical activity and healthy living. For example, physical activity and healthy living could be introduced to students in subjects such as biology and home economics (Shaya et al., 2008). In biology, a teacher could point out the positive and negative physical effects exercise has on our bodies. As Jackson et al., (2008) stated, “children who are physically active appear to have better skeletal and psychological health” (p. 274). Students could also be educated in home economics. In Shaya et al.’s (2008) research, researchers completed a 12 week study related to teaching the students how to cook healthy meals. Once the 12 weeks were completed, the students’ cholesterol levels were checked. Researchers found a significant decrease in the students’ cholesterol levels (Shaya et al., 2008). Future research in this area could include inviting the parents to be a part of the home economic cooking classes to try and promote healthy eating within the homes (Shaya et al., 2008). “Including parents in short-term school-based nutrition and health education

interventions has been demonstrated to significantly increase at-home dietary and nutritional knowledge” (Shaya et al., 2008, p. 194). Even with research demonstrating the multiple ways one could adapt physical education classes or promote physical activity in academic classes, the reality is that the schools are having difficulties accomplishing these goals (Williams & Germain, 2008). Schools primary focus may be directed towards academic classes instead of physical activity.

Currently the British Columbia Ministry of Education (2012) stated that students in Kindergarten to grade 7 must participate in 30 minutes of daily physical activity. Students in grade 8 and 9 had the flexibility of either doing 30 minutes of daily physical activity or 150 minutes per the week. High school students (grade 10 to 12) were expected to participate in daily physical activity for 150 minutes per a week for graduation transitions (www.bced.gov.bc.ca/dpa). Saskatchewan Ministry of Education had the same requirements as British Columbia (<http://www.bced.gov.bc.ca/dpa>). The commonality between both provinces was that the physical activity did not have to be structured at the school from grade 8 to 12. Daily physical activity could happen at school, community, or sport events. This may leave too much freedom for students to not participate in daily physical activity at school.

There would be sufficient time to teach physical activity and healthy living with students in school five days a week for approximately six hours. However, there has been some controversy on how effective schools have been in promoting physical activity. Recently, the length of physical education classes have been decreased in time compared to core classes (Williams & Germain, 2008). Thomas, Thomas, and Williams, (2008) stated, “many elementary school children have 60 to 90 minutes of formal

physical education per week...a school year consisting of approximately 180 days, children will have only 2000 to 3000 minutes of physical education per year (30-50 hours/year)” (p. 41). More time should be given to physical education classes within the school system (Corbin & McKenzie, 2008; Rizzo & Kirkendall, 1995). This would provide students daily physical activity and reiterate the importance of having a full block of physical education within the school system. However, Williams and Germain (2008) disagreed and stated, “Increasing the number of state-mandated physical education courses and ‘minutes’ in school has had no detectable effect on weight or the likelihood of obesity among the students” (p. 39). A Canadian study done by Trudeau and Shepard (2008) looked at the link between academic achievement and PE, physical activity, and sport programs. Trudeau and Shepard (2008) discovered that adding more PE time or physical activity to the students’ day increased academic achievement . That is, “quasi-experiment data indicated that allocating up to an additional hour per a day of curriculum time to physical activity programs did not affect primary school students negatively and additional PE resulted in small absolute gains in grade point average” (Trudeau & Shepard, 2008, p. 1). Also, adding more time to PE helped student achievement, unlike, adding more time to academic classes and decreasing PE or physical activity within the school. Data from quasi-experimental studies found when PE or physical activity was decreased, student achievement did not increase and the health of the students may have decreased (Trudeau & Shepard, 2008).

Regardless, researchers have agreed with the limited given time that is being allocated to physical education, teachers need to be qualified in this field so they are teaching the students effectively with the time they have (Corbin & McKenzie, 2008;

Thomas et al., 2008; Williams & Germain, 2008). Physical education classes for pre-service teachers need to be more specific (i.e., classes geared to teach importance of body movements and how to teach physical activities to all students). Qualified teachers in physical education will benefit students who are typical and exceptional.

2.1.2 Benefits of Physical Activity and Children with Exceptionalities. There are many benefits to promoting physical activity to children with exceptionalities. Most of the research related to physical activity has been geared to students who are typically achieving. Little research exists outlining the benefits of physical activity for individuals with exceptionalities. However, previous research has showed that physical activity is very important for all human beings, especially students with exceptionalities (Rizzo & Davis, 1991).

The number of children with exceptionalities has increased in the past decade, and there has been no evidence that it will be decreasing in the near future (Rizzo & Davis, 1991). Many schools have been trying to adapt their programming to fit the needs of students with exceptionalities due to this increase. Some schools place their students on individualized educational programs (IEP) to try and adapt or modify the curriculum to suit the needs of students with exceptionalities to promote success. However, Rizzo and Davis (1991) declared, “physical education is rarely included in an IEP” (p. 53). The IEP teams should be deciding what kind of physical education program each student should be on, and should be the advocates for students with exceptionalities (Block & Burke, 1999). An and Goodwin (2007) had similar findings in a study conducted in a school in Western Canada. They found there was a lack of physical education goals and objectives being included in the IEP for students with spina bifida. The students all had

physiotherapy goals written and may have been seen as physical activity, however, An and Goodwin stated that physiotherapy goals should not replace physical activity or physical education goals. Despite not having a physical education goal, the high school physical education teacher was not part of the IEP process (An & Goodwin, 2007). If physical education is not included in a students' IEP, then what does it say about how the school system values students with exceptionalities in physical activity? Are the schools too focused on academia and see physical activity as unimportant? Or, is physical activity “viewed as a luxury for handicapped children” (Block & Burke, 1999, p. 18). One would like to think that there has been a positive shift in how individuals perceive the need for students with exceptionalities to participate in activities since the completion of this study.

A qualitative Canadian study was conducted that focused on physical education for students with spina bifida and their mothers' perspective (An & Goodwin, 2007). The results indicated that the mothers recognized that physical education was a “contributing factor to the maintenance of a healthy body weight and the long term prevention of obesity through engagement in a physically active lifestyle” (An & Goodwin, 2007, p. 53). Physical education was also viewed as important for the development of social skills (e.g., making friends, self-confidence, and sense of belonging).

Children with exceptionalities benefit not only from school-based physical education, but also from physical activities outside of the school (Kleinert et al., 2007). Educators need to be open in allowing and facilitating their students with exceptionalities to be engaged in outside activities such as: therapeutic horseback riding, snowshoeing, or swimming (Kleinert et al., 2007; Todd & Reid, 2006). Kleinert et al. (2007)

acknowledged, “Recreation and leisure activities play a vital role in all our lives, and educators have long recognized that such activities are an important instructional emphasis for students with moderate and severe disabilities” (p. 33). For some children with exceptionalities, they only get the opportunity to participate in recreational activities through the school system (Kleinert et al., 2007). Parents seem to either shy away from taking their child with an exceptionality to community based activities, or they cannot find any physical activities within their community that suit their child’s needs (Kleinert et al., 2007). Kleinert et al. (2007) stated, “students with such disabilities have few, if any, chances to participate; and this lack of engagement may well carry over into adulthood” (p. 34). Educators should try to provide students with exceptionalities a lifetime activity that they can either do by themselves or with a friend (Driver & Kelly, 2005). Driver and Kelly (2005) suggested activities such as swimming, basketball, or bowling. Children with exceptionalities need to be immersed in physical activity to learn how to use their motor skills and move their bodies, or they may be inactive (Klein et al., 2005). If children with exceptionalities are inactive, then this could lead to children spending their spare time watching television or playing computer games, which are “largely sedentary in nature” (Klein et al., 2005, p. 52).

In order to promote children with exceptionalities to be active, the physical activity often needs to be adapted. Some students with exceptionalities may not like physical activities because of the social aspect or the environment (Pan & Frey, 2006). In order to promote physical activity, there needs to be careful planning and structure to make sure that all students will benefit from the activity (Kleinert et al., 2007). Teachers need to take into consideration that some students may not appreciate group physical

activities (e.g., basketball, volleyball, badminton). Therefore, teachers may need to plan several physical activity stations for the class instead of *one* activity for the whole class. It is important to have all children eager and willing to participate when being physically active to promote a lifelong desire to want to be active. Many students with exceptionalities struggle with academics, but if given the opportunity may be quite good at physical activities. Physical activity could alleviate some stress that they are feeling in the classroom, help with their attention, cognition, and memory (Jensen, 2008). O'Bryant, O'Sullivan, and Raudensky, (2000) claimed participation in physical activity is important for individuals with exceptionalities that need positivism in their lives and a break from school and home. Physical activity for children with exceptionalities also leads to positive self-esteem, positive behaviour, happiness, intellectual growth, and social skills in youth (Pan & Frey, 2006).

Pan and Frey (2006) examined the unique characteristics associated with Autism Spectrum Disorder (ASD) and found a greater risk of inactivity than any other types of disabilities and individuals without disabilities. Their study concluded that individuals with ASD had unique characteristics that excluded them from physical activity (Pan & Frey, 2006). These characteristics were the social constraints and behaviours that individuals with ASD exhibited. Behaviours of individuals with ASD tend to limit participation in groups or organized sports. This study revealed that physical activity levels in ASD were lower than previous reports on peers without disabilities. Pan and Frey's (2006) findings claimed that individuals with ASD's social behaviours were problematic in participating in physical education classes. Lack of participation had to do with behavioural issues and teachers not wanting to deal with these issues (Pan & Frey,

2006). The authors concluded that society had failed individuals with ASD by limiting the activities available to them (Pan & Frey, 2006). Inadequate activities (i.e., group sports) for individuals with ASD lead to limited opportunities (i.e., inability to participate due to expectation of playing with other individuals) for them to be successful participants in physical activity (Pan, 2008).

Intervention and providing a little incentive may be helpful in promoting physical activity for individuals with ASD. Todd and Reid (2006) were curious if an intervention could promote physical activity with individuals diagnosed with Autism. Their study group consisted of three young secondary men ranging from 15-20 years of age that had been clinically diagnosed with Autism who participated in a six month physical activity program. These men were enrolled in a Canadian school that, at the time of the study, had no physical education program within their school (Todd & Reid, 2006). The study consisted of half an hour of physical activity twice a week while using edible incentives (e.g., candy) to encourage the students to participate and slowly weaning out the incentives. Todd and Reid (2006) were not keen on using candy for edible reinforcements but were advised by the teachers to use candy as edible reinforcements to promote positive behaviour. However, by the fourth session, edible reinforcements were not needed to promote participation. The students were expected to self-monitor themselves on how they did after each physical activity. Self-monitoring was a successful way for these students to promote physical activity (e.g., snow shoeing, walking, and running). Todd and Reid (2006) suggested that with intervention there could be a way to promote participation in physical activity for individuals with autism. They proposed that “motor functioning of individuals with ASD had been a neglected

area despite the fact that participation in physical activity had been shown to have multiple benefits, including reduction of stereotype behaviour, increased appropriate responding, and the potential for social interaction” (Todd & Reid, 2006, p. 3). Physical activity is often overlooked in people with severe disabilities, as well as individuals with ASD in being beneficial for individuals to succeed and cope within their classroom environment.

Mulrine, Prater, and Jenkins (2008) conducted a study on how an active classroom helped students who were typical as well as students who exhibited exceptionalities. They found that the classroom environment needed to encourage movement throughout the day to ensure that students were learning at their full potential (Mulrine, Prater, & Jenkins, 2008). Mulrine et al. (2008) focused mainly on students with ADHD and found that daily activity improved problematic classroom behaviour, and better focus of students’ attention on content instruction. Pearson (2004) suggested, “children who are engaged in daily physical activity show improved motor fitness, improved academic performance and improved attitude towards school compared to students who do not participate in daily physical activity” (p. 16). Despite the benefits of physical activity, students with ADHD tended to be reprimanded for not finishing their work during physical education or recess, not giving them the opportunity to participate in physical activity (Mulrine et al., 2008). Research showed that using classroom transition exercises, lesson energizers, and structured movement games for recess helped all students to improve focus (Mulrine et al., 2008).

Horvat and Franklin (2001) studied the effects of physical activity during recess for children with intellectual disabilities. They discovered that inclusive and non-

inclusive recess was beneficial in promoting physical activity. Inclusive recess was combined with children who were typical and children with an intellectual disability and non-inclusive recess only with children who had an intellectual disability (Mulrine et al., 2008). Both types of recess encouraged physical activity that may promote improvement in physical fitness for children with intellectual disabilities helping with classroom learning (Horvat & Franklin, 2001). Pan (2008) studied individuals with ASD and recess inactivity compared to students who were typically achieving. Pan (2008) discovered that the majority of students were not being physically active during inclusive recess, suggesting that intervention was needed to promote physical activity. All students benefited by increasing their physical activity during recess with intervention, (Pan, 2008). Students with ADHD that participated in physical activity helped them with concentration and provided an outlet for healthy impulses, helping control impulsivity. All students, typically achieving and with exceptionalities, need movement during the day to help retain new information within the brain (Pearson, 2004). Physical activity has been known to provide important physical and emotional benefits for the entire population; however, participation has remained low due to a variety of barriers (Jenson, 2008; Mulrine et al., 2008; Welk, 1999).

2.1.3. Barriers of Physical Activity with General Population.

Many different models of physical activity have been researched trying to understand the complexities of, and identify why, barriers exist within the general population. Physical activity is hard to measure due to duration of activity, type of physical activity, age of participants involved, and environmental factors (e.g., weather, socioeconomics, personal home life, and parent involvement) (Welk, 1999). Due to

difficult factors in testing physical activity, researchers have had to use a variety of methods to measure physical activity. Behavioural and environmental approaches (e.g., time outdoors or transportation to facilities), social cognitive theoretical approaches (e.g., parent role modeling and parent involvement), and expectancy value based approaches (e.g., theory of reasoned action and theory of planned behaviour) have primarily been used to measure physical activity and barriers (Welk, 1999; Welk, Wood & Morss, 2003).

Social cognitive theory has been the most commonly used approach in physical activity barrier research. The social cognitive theory claims that you learn behaviours by watching what others do. The social cognitive theory focuses on personal, social, and environmental variables with discovering the influence of behaviour (Welk, 1999). Using social cognitive theory as a basis, Oliver and Hamzeh (2010) examined the personal, social, and environmental category as potential factors of physical activity behaviour in fifth-grade students. The physical and social category focused on support seeking, over coming barriers, competing in school activities, social influences, and beliefs about activity outcomes. The social barriers that the girls encountered were culturally intertwined with the boys limiting activity opportunities. They did this by put downs towards the girls or by thinking the girls were too weak to play sports or be involved in physical activities (Oliver & Hamzeh, 2010). The environment category included access to playgrounds and equipment, like or dislike of physical activity, and parental behaviours. The main predictors for the girls were how to overcome the barriers, which was similar to Welk's (2009) research. Oliver and Hamzeh's (2010) focus group was based on a culture that has machismo roles, which would be hard to overcome as a

young girl. One of the limitations of this study was it only focused on one rural mestizas town, instead of considering a number of towns that may have represented a more diverse sample of people. Other limitations included the difficulty in trying to research youth population and physical activity. Researching youth is difficult since they are still strongly influenced by adults (caregivers and/or parents) who may determine how much physical activity (sports, playtime with friends, individual leisure activity) they will partake in daily (Azar, Naughton, & Joseph, 2009).

Using a similar social learning approach, Azar, Naughton, and Joseph (2009) examined “physical activity, barriers to physical activity and social connectedness changes in single-parent families” (p. 349). This research focused on social, cognitive, and demographics of activity behaviour among low socioeconomic status (SES), and single-parent adults. The social category included supporting and educating single-parent families about the benefits of physical activity. The identified benefits within this study were health-related (e.g., physical activity) as well as re-connecting families for social support through social engagements of physical activity (Azar, Naughton, & Joseph, 2009). The cognitive and environmental approach included perception of physical activity within a 12 month study period, perceived barriers, and increasing connections with friends and family during social engagements (Azar, Naughton & Joseph, 2009). Some of these perceived barriers were lack of time and affordability to participate in physical activity with their children (Azar, Naughton, & Joseph, 2009).

Azar, Naughton, and Joseph (2009) ran a one year program through the Young Men’s Christian Association (YMCA), with a baseline of 106 single parents. After 12 months of research, the information from 64 of these parents was used in their analyses.

The use of descriptive information was geared to parents about family physical activity and barriers (e.g., lack of time, lack of social connectedness, and affordability of physical activity opportunities) to promote the positive impact physical activity can have on families. Limitations within this research may have occurred since parents were the ones filling out the questionnaires, self reporting exercises, and representing a population of single parents with substantial social disadvantages. Fifty percent of parents were between 31 and 40 years of age and had 12 years or less as their highest level of education. Lower levels of education could have made it difficult for individuals to read, understand, and answer questions appropriately. In these studies, personal, social, and environmental variables were all found to influence behaviours.

Expectancy- valued based approaches (e.g., TRA, TPB) have also been used to research and identify barriers in physical activity. This approach focuses on individuals attitudes towards physical activity and “perception of social norm” to determine how it affects participation by using the theory of reasoned action (TRA) and theory of planned behavior (TBP) (Welk, 1999, p. 8). The purpose of TRA is to understand and predict behavior (Ajzen & Fishbein, 1980). “The theory assumes that intention is an immediate, approximate determinant of behaviour. It assumes that attitudes and subject norms mediate intention” (Kowalski & Rizzo, 1996, p. 183). Rizzo (1996,1995, 1991) has dedicated years of researching attitudes using the Physical Educators Attitude Toward Teaching Individuals with Disabilities (PEATID III) instrument to compare teacher attitudes and physical activity with the TRA being the theoretic basis of the PEATID III.

Kwan, Bray and Ginis (2009) conducted a study on Ajzen’s theory of planned behavior and measured past physical activity behaviour to predict physical activity of

first-year university students. The TPB is essentially an extension from the TRA, but the TPB addresses external factors that may be perceived as uncontrollable by the individual (Kwan, Bray & Ginis, 2009). This study had 212 first year university participants who complete the measures of TPB variable (e.g. attitudes, subjective norms, perceived behaviour control, and intentions) and past physical activity at the beginning of the 2006 school year. Eight weeks later the participants measured their physical activity. The researchers found that TPB offers a “good prediction of physical activity intentions but falls short of predicting behaviour” (Kwan, Bray & Ginis, 2009, p.45). Kwan, Bray and Ginis claimed that the “TBA is recognized as one of the best-validated models for understanding why people exercise and as one of the most widely used theories for predicting physical activity” (p. 46).

Dwyer et al. (2006) researched perceived barriers to participation in physical activity among adolescent girls who lived in a large ethno racially and socioeconomically diverse city. The research was qualitative with a structured interview guide showing and describing Canada’s Physical Activity Guide to Healthy Living (Public Health Agency of Canada, 2003, October 8) diagram that explained the type, intensity, and duration of physical activity needed to maintain health (Dwyer et al., 2006). Group interviews were conducted with 8 to 12 adolescents. The barriers discovered during this research were: lack of time; involvement in technology-related activities (e.g., internet, cell phones, and computer games); influence of peers, parents and teachers; concern about safety (neighborhood safety); inaccessibility of facilities (rural community without a gym, pool, or organized sports) and cost of using them; and competition and body centered issues (e.g., obesity, anorexia, puberty). The attitude of 73 adolescent girls in Toronto, Canada

towards physical activity determined how much activity they would do. If the girls had positive attitudes influenced by peers, parents, or educators they tended to participate more in physical activity than the girls whose attitudes were negative (Dwyer et al., 2006). These findings were consistent with other research which found that adolescent girls were self-conscious about their appearance, particularly when adolescent boys were watching them, which in turn affected their attitudes towards sports and physical activity (e.g., social cognitive theory) (Dwyer et al., 2006; Welk, 1999). The attitude that an individual has tends to sway perceptions on physical activity, whether it be positive or negative.

Being able to accurately assess children's physical activity is difficult compared to assessing adults "due to limited recall and more sporadic activity patterns" (Welk, 1999, p. 7). Having inaccurate measures of physical activity skews data retrieval with research, limiting children and youth population in being studied. Many instruments for assessing physical activity have been used but were meant to be examining adults. These instruments have been reworded with the assumption that children and adolescents are influenced the same as adults (Welk, 1999). As stated above, these are only a few of the barriers that exist when trying to study typical children and adolescents. Trying to accurately measure physical activity and create appropriate instruments to use with children with exceptionalities adds more complexities. Similar barriers exist with children and adolescents with exceptionalities as they do with typical children and adolescents. However, this population is even harder to research and find appropriate instruments with validity evidence.

2.1.4 Barriers of Physical Activity for Children with Exceptionalities. Studies have found that children with exceptionalities were less active in physical activity than children who are typically achieving (Bedini & Anderson, 2005; Block, Martin, & Burke, 1999; Pan, 2008; Rizzo & Davis, 1991; Robinson & Rollheiser, 2006). Pan (2008) researched children with Autism Spectrum Disorder (ASD) and their activity level during recess compared to children without disabilities. Pan (2008) discovered children with ASD were less active during overall recess, lunchtime, first and morning recess compared to those without disabilities. It was suggested that children with exceptionalities needed intervention for increasing physical activity during recess for them to reach optimal physical activity (Pan, 2008). However, physical activity intervention for children with exceptionalities has been an ongoing battle within the school system (Lieberman, Robinson, & Rollheiser, 2006). Programming may be put into place for students with exceptionalities to have intervention during recess or lunch, but might not be followed through or be consistent. Teachers could be blamed for lack of education, time, or non-appropriate programming (Lieberman et al., 2006; Rizzo & Kirkendall, 1995).

Limitations occur for inclusive physical education when teachers are undereducated about teaching students with exceptionalities (Rizzo & Davis, 1991). Often pre-service teacher program courses focus more on reading and writing then music, art, or physical education (Rizzo & Davis, 1991). There are also limited requirements for pre-service teachers to take more than one three-credit course on teaching students with exceptionalities (Rizzo & Davis, 1991). Currently, the University of Saskatchewan and University of British Columbia require pre-service teachers who want to specialize in teaching physical education to take one adapted physical education class

(http://www.usask.ca/education/program/current-students/forms/kin_comb_check.pdf;

[http://teach.educ.ubc.ca/admissions/forms/worksheets/secondary/2013/Physical-Ed-](http://teach.educ.ubc.ca/admissions/forms/worksheets/secondary/2013/Physical-Ed-2013.pdf)

2013.pdf). This course is classroom based without implementing practical knowledge.

The students will venture out to their practicum, but may or may not work with students who need adaptations. This would be dependent on the school and if students with exceptionalities attend regular physical education classes. Many teachers do not understand the importance and need to adapt physical education so all students can enjoy physical activity, since they are not expected to take more than one course pertaining to physical education during their teacher training.

Lieberman et al. (2006) studied youth with visual impairments and their experiences in general physical education. They found students with visual impairments who were included in general physical education did not participate in as vigorous physical activities as their sighted peers (Lieberman et al., 2006. Lieberman et al. (2006) discovered that restrictions were largely due to “lack of support of teachers, lack of engagement of classmates, constraints imposed by the instructional environment (lack of adequate modifications), or a combination of all three components” (p. 37). Nine of the participants within the study claimed they were excluded from physical education because of their visual impairment, and others stated their classmates teased them. Researchers reported there was a need for teachers to be educated in understanding what modifications were needed for visually impaired students to be successful within their physical education class (Lieberman et al., 2006). It is important for teachers to provide adequate modifications for students with exceptionalities and promote camaraderie with their classmates.

There has been a growing concern that even though the physical education (PE) services are available for children with exceptionalities, many schools are not offering PE to students with exceptionalities (Block, Martin, & Burke, 1999). Block et al. (1999) claimed “some school systems viewed PE as a luxury for children with exceptionalities therefore focusing more on academia and less on physical activity” (p. 18). Students that required occupational therapy, recreation therapy, recess, or Special Olympics were also viewed as receiving physical education and therefore, not given the opportunity to participate in physical education classes (Block et al., 1999). Teaching the Individual Educational Plan (IEP) team on how to write effective IEP goals and objectives for the physical education program would be most beneficial to the student and teacher (Lieberman et al., 2006). If the student has an IEP goal in PE, then the teacher understands and knows what the student needs to work towards to be successful.

Educating teachers on how to read Individual Education Plans (IEP) is ideal when expecting modifications to happen in classrooms. Good communication between the physical education teacher and resource teacher about the students’ IEP is important when wanting modifications implemented into the curriculum (Lieberman et al., 2006). Having the teacher involved in the IEP meeting is crucial in making the goals for the student. This allows the teacher to freely talk about the student’s strengths and needs and hopefully create a positive relationship between child and teacher (Lieberman et al., 2006). In helping the teacher understand what the child is able to do and what should be modified may make modifying lessons seem less daunting, thus promote a positive attitude toward teaching students with exceptionalities.

2.2 Teacher Attitudes

Positive teaching attitudes influence student performance more than one may realize. If teachers have a negative attitude towards teaching physical education, then it is likely he/she will not enjoy teaching. Teachers may then plan an inadequate lesson resulting in the students dislike for physical activity (Faulkner & Reeves, 2008).

Teachers with a negative attitude towards physical education may “not value sport as an element of their self system which may not be the most effective at transmitting positive attitudes to sport and exercise to young children” (Faulkner & Reeves, 2000, p. 313).

Teachers may reflect these negative attitudes simply because they are lacking in physical activity skills (e.g., use of weight room, use of cardio machines, swimming, soccer, basketball) which leads to low confidence, and poor teaching results (Faulkner & Reeves, 2000; Rizzo & Kirkendall, 1995). Lacking in physical education skill would only heighten the stress while teaching a class of students with exceptionalities. Many teachers do not graduate from education programs with more than one course in teaching physical education. In addition, many of these courses only focus on children who are typically achieving and not on how to modify programming for children with exceptionalities (Faulkner & Reeves, 2000; Kowalski & Rizzo, 1996; Parks, Solmon, & Lee, 2007). Problems arise when dealing with teachers who have a negative attitude toward teaching physical education in general. Some of these problems may be refusal to attend professional development days to learn more about adapting and modifying, and/or refusal to teach students with exceptionalities in their class. A way to alleviate the negative attitude of teachers may be to encourage adapted physical education courses in a pre-service teacher undergraduate study. Another way could be during pre-service

practicums allowing pre-service teachers to work with students who have exceptionalities to gain more experience.

Promoting a positive attitude in teaching physical education with teachers may have to start when pre-service teachers are beginning their undergraduate studies (Kowalski & Rizzo, 1996; O'Bryant et al., 2000; Rizzo & Kirkendall, 1995). This would provide the pre-service teachers with more content knowledge about students with exceptionalities, which may in turn provide them with the confidence needed to teach students with diverse needs. Universities need to change their curriculum and mandate specific physical education courses relating to teachers undergraduate training to help teachers teach diverse classes (O'Bryant et al., 2000). The pre-service students would then have more content knowledge, practical experience, and confidence in teaching students with exceptionalities (Faulkner & Reeves, 2000; Kowalski & Rizzo, 1996; O'Bryant et al., 2000). Often additional coursework focusing on making adaptations for students with diverse needs is left to a masters program. If a teacher opts not to continue their university studies after their undergraduate training they would not receive information on teaching students with exceptionalities. Kowalski and Rizzo (1996) examined the relationship between the following variables: gender, level of programming (undergraduate/graduate), major, number of infusion based courses (introduces knowledge about individuals with exceptionalities throughout undergraduate and graduate physical education curriculum), number of adapted physical education courses, perceived competence of physical education students, and attitudes towards working and teaching with individuals of exceptionalities. Kowalski and Rizzo (1996) used the Physical Educators' Attitude Towards Teaching Individuals with Disabilities- III

(PEATID) survey. The PEATID III is the third revision of the original PEATH survey (Kowalski & Rizzo, 1996). This survey is based on the Theory of Reasoned Action (TRA) (Ajzen & Fishbein, 1980). The TRA focuses on three key components that influence behavior: intention, attitudes, and subjective norms (Kwan, Bray & Ginis, 2009). Kwan, Bray and Ginis (2009) stated: the TRA, intentions reflects motivation to perform the behavior and is the most proximal determinant of whether the behavior will be performed. Attitude represents the positive or negative evaluation of the target behaviour, whereas subjective norms reflect the perceived social pressures to perform the behaviour. The theory posits that people are more likely to intend to perform a behaviour if they evaluate it positively and believe that other important people think they should perform it, (p. 46).

The PEATID III questionnaire was composed of 12 items with a five-point Likert scale (e.g., strongly disagree, disagree, undecided, agree, and strongly agree). The questionnaire also included demographic questions relating to the participant (e.g., gender, age, undergraduate, graduate, teaching experience, and experience teaching individuals with exceptionalities). The purpose of this survey was to study a series of statements which expressed teachers' attitudes about teaching students with exceptionalities in a regular physical education class. The three factors for this survey were: (1) outcomes of teaching students with disabilities in regular classes, (2) effects on student learning, and (3) need for more academic preparation to teach students with exceptionalities.

Kowalski and Rizzo discovered a number of flaws within the university programs with respect to teaching physical education, especially to students of exceptionalities.

Universities were not teaching physical educators how to teach students of exceptionalities (Kowalski & Rizzo, 1996). Despite changes in U.S. law to include all students into physical education, universities have not adapted or modified their undergraduate programming (Kowalski & Rizzo, 1996). At the time of this study, most undergraduate students only needed one course in adapted physical education. Unfortunately, universities are still following this trend (Kowalski & Rizzo, 1996; Parks et al., 2007). Content based knowledge relating to physical activity needs to be increased to promote a positive and active environment at the school level. Kowalski and Rizzo (1996) claimed the infusion-based curriculum model should be adapted by universities. The infusion-based curriculum model incorporates information about individuals who have exceptionalities during lecture courses, and activities to build skills throughout the undergraduate and graduate curriculum (Kowalski & Rizzo, 1996). The infusion model proved to be effective teaching a diverse classroom while promoting a positive attitude at Adelphi University in Long Island, New York (Kowalski & Rizzo, 1996). Adelphi University found that by using the infusion-based curriculum created experiences that “interchanged between theory and practice that provides greater depth of knowledge” (Kowalski & Rizzo, 1996, p. 183). However, limited research has been done on the effectiveness of the infusion-based curriculum model, Adelphi University had initiated an investigation of its curriculum (Kowalski & Rizzo, 1996). Kowalski and Rizzo (1996) claimed, “rather than adding more specialized coursework, universities should restructure their programs and infuse information and experience about disabilities throughout the curriculum” (p. 193). The more knowledgeable the teacher, the more confident they will be in teaching students with exceptionalities which would promote a positive attitude

(Kowalski & Rizzo, 1996; Parks et al., 2007; Rizzo & Kirkendall, 1995).

The lack of knowledge of not being able to understand children with exceptionalities, affects teachers' attitudes towards teaching diverse groups (Kowalski & Rizzo, 1996). Kowalski and Rizzo (1996) established that the more competent students felt, the more favourable their attitudes were, and the number of infusion-based courses were significantly related to attitudes. Overall, "attitudes of physical educators were more likely to be favourable in teachers who had higher perceived teaching competence, more academic preparation in adapted physical education, and experience with individuals with disabilities" (Kowalski and Rizzo, 1996, p. 181). If a teacher has ample amounts of prior experience and content knowledge, it shows in the way they prepare their lessons and teach with confidence. There is a need for undergraduate university programs to include more courses dealing with developing strategies with individuals of exceptionalities. However, prior experience with individuals who have exceptionalities for undergraduate students is also important when learning how to teach diverse classes (Kowalski & Rizzo, 1995).

University training programs should take into account students' prior knowledge and experience (O'Bryant et al., 2000). O' Bryant et al. (2000) claimed "that if we had a better understanding of who our recruits were and what their beliefs were about teaching, schooling, and physical education, that we may be able to better design, sequence, and present professional content to ensure a more robust teacher education programme" (p. 179). There has been criticism in the physical education teacher education programme (PETE) in the:

area of content knowledge; for having too great a focus on a technical orientation

to teacher education with too little focus on an inquiry perspective; and for having a lack of commitment to multi-culturalism, and appreciation for diversity both within the recruitment of students into physical education and within the context of delivery of physical education instruction. (O'Bryant et al., 2000, p. 177)

O' Bryant et al. (2000) conducted a yearlong qualitative study that followed seven graduate students at a university. This university made a decision to move undergraduate teaching degrees in physical education into a Masters of Education degree. The participants were all over the age of 25 years, enabling them to enter the program with "rich life experiences, diverse reasons for entry and distinctive motivation purposes" (O' Bryant et al., 2000, p. 180). The results of the study showed the participants not only chose to complete their Masters in Physical Education because they loved being physically active, but mainly because they enjoyed helping young people participate in and enjoy physical activities. The participants believed:

Their role as a physical education teacher was to be a physically active role model and help students appreciate the importance of physical activity, to contribute to the development of self-esteem; especially those sometimes marginalized in physical education classes, and to plan and teach lessons that would motivate all students to participate in class. (O' Bryant et al., 2000, p. 177)

Student teachers who have prior experience in physical education are more likely to be "committed to the area and teach better" (Faulkner & Reeves, 2000, p. 312). Rizzo and Kirkendall (1995) believed that teachers' prior experiences do affect their attitudes, teaching style, and willingness to include exceptional students. However, Parks et al. (2007) claimed, "mastery experiences were not rooted in personal physical activity, but

rather in mastery experience in teaching experiences related to movement” (p. 327).

Prior experience with physical activity has been seen as important when teaching students with exceptionalities. However, the need to have content experience is equally important (Parks et al., 2007; Rizzo & Kirkendall, 1995). Physical education teachers do need to be specialized but teachers in other curriculum areas need to be aware and willing to promote physical activity.

Teachers need to value physical activity for themselves. If they do not, it will reflect deeply in their teaching style (Faulkner & Reeves, 2000, Parks et al., 2007). Physical educators cannot be the only teachers in the school trying to promote and increase the amounts of physical activities (Parks et al., 2007). Physical education programs cannot increase children’s amount of activity on their own. If schools want to help increase children’s amount of activity, they need to work together to promote integration throughout the curriculum (Parks et al., 2007). Schools need: a team-based atmosphere, a positive attitude toward improving the amount of activity in which they participate, and to integrate physical activity throughout the school days (Parks et al., 2007).

Parks et al. (2007) studied how teachers and principals could affectively integrate physical activity while using an effective collective framework (Parks, Solomon, & Lee, 2007). Many children are not getting the appropriate amount of physical activity throughout the school day, despite the obvious benefits that physical activity has on children (Parks et al., 2007). Some of these benefits include: “building and maintaining healthy bones, muscles, and joints; developing a strong and efficient cardiovascular system, and decreasing risk of hypertension; and psychologically, physical activity has

been proven to reduce anxiety, reduce depression and build self-esteem” (Parks et al., 2007, p. 316). The benefits of physical activity are imperative in maintaining a healthy body and mind. Center for Disease Control and Prevention advise children and adolescents to be physically active for 60 minutes or more daily (e.g., walking to and from school, biking, sports) (www.healthycanadians.gc.ca). However, Parks et al. (2007) claimed a majority of the children are not participating in the appropriate amount of activity in physical education or in other settings. School staff needs to collaboratively work together to promote more physical activity throughout the school day (Parks et al., 2007).

Parks et al. (2007) clearly stated their objective at the beginning of the article, while educating the reader about past research on how physical activity benefits children and how schools have been lacking in promoting daily physical activities. Parks et al. (2007) claimed that according to the “National Association for Sport and Physical Education (NASPE) guidelines recommended that elementary-aged children engage in a minimum of 60 minutes of activity daily” (p. 317). Unlike the United States (e.g., NASPE), the Canadian federal government does not have control over how the Board of Education is administered throughout each province and territory (Dworet & Bennett, 2002). In Canada, each province and territory has their own Ministry of Education that administers the Education Act for the province (Dworet & Bennett, 2002).

Children are not getting the appropriate level of daily physical activity that is needed, and schools need to take more responsibility (Parks et al., 2007). Responsibility cannot be placed solely on the physical education teacher. The whole school needs to collaborate and integrate physical activity within all subjects to effectively engage

students in daily physical activity (Parks et al., 2007). Active Healthy Kids Canada (2012) stated that:

Canadian schools average from 88.7 minutes of PE per week (Kindergarten) to 169.2 minutes of PE per week (Grades 11-12). However, the percentage of students taking at least 1 PE class per week drops significantly in higher secondary grades (57% among Grades 11-12 students) compared to other grades (98% in Kindergarten, 99% in Grades 1-8, 84% in Grades 9-10 and 57% in Grades 11-12). (p. 6)

This research reiterates how physical activity has been cut within the curriculum (Parks et al., 2007).

Participants were recruited from public, private, chartered, and Montessori schools. School principals were invited to participate and asked to recruit teachers. Overall, 341 in-service elementary teachers and 38 elementary school principals from 44 elementary schools were used within this research study (Parks et al., 2007). Using a variety of surveys, the researchers covered all angles of their study. Each survey touched on different aspects of the thesis question. For example, a comprehensive four-page survey addressing biographical questions, personal fitness level, and beliefs on importance of physical activity, a 10-item of wellness and moving survey to assess their tendencies to be active, and a Role Preparedness for Integrating Physical Activity instrument. However, the role preparedness results could be taken out of context since the teachers were simply reading and responding to a scenario. If they were acting out the scenario within the classroom setting, the responses of the teachers may be different. The results could have been misleading simply because the teachers were taken out of

their environment.

The authors' findings appropriately reflect the purpose of their study. The results under the biographical survey consisted on average, teachers and principals rating their fitness levels as fair or good, but as a group they did not rate themselves as fit and active. However, they did recognize the importance physical activity has for children (Parks et al., 2007). The participants believed that integrating physical activity into the classrooms is needed for the children "physically, mentally, and possibly academically" and were willing to include physical activity three to five times weekly, or once or twice daily (Parks et al., 2007, p. 326). Teachers believed the best subject for movement would be during math while the principals' responses were evenly distributed across all content areas (Parker et al., 2007). Results for role preparedness indicated that teachers did not feel well prepared to integrate physical activity. However, teachers were willing to integrate movement with additional support (Parks et al., 2007). Under individual and collective efficacy the results were that individually they were more effective when having mastery experience and collectively the institutional environment was vital in promoting collective efficacy (Faulkner & Reeves, 2000; Parks et al., 2007). These finding were only conclusive with typical students not children with exceptionalities.

As previously stated, researchers have investigated pre-service teachers attitudes in regards to physical activity (Kowalski & Rizzo, 1996; Hodge et al., 2002; Rizzo & Kirkendal, 1995). However, limited research has been on in-service teachers' and their attitudes towards physical activity. The common thread with researching attitudes and physical education is that most used the PEATID III with the main focus being on TRA. However, some researchers used the PEATID III but focused on using the TPB (Kwan,

Bray & Ginis, 2009; Casebolt & Hodge, 2010). Hodge, Murata and Kozub (2002) designed an instrument called Physical Educators' Judgments About Inclusion (PEJI) that utilized the TPB.

Hodge et al., (2002) conducted a 5 year pilot study to develop the PEJI, which consisted of 67 items. Unlike Rizzo, Hodge and colleagues (2002) preferred the “theory of planned behaviour that perceived behavioural control is a factor that influences learning and attitude change” (p. 436). Since the theory of planned behaviour influenced Hodge and colleagues (2002) they “noted the importance of structuring some judgment statements so that they referred to behaviours rather than persons or attributes” (p. 439). Hodge et al., (2002) were not influenced solely by one theory, but of three theories while constructing and administering the PEJI: social judgment, contact, and planned behaviour.

Within the five years of testing 67 items, the PEJI was reduced down to 15 items. These items focused on inclusion in regular physical education classes and how teachers felt about having a diverse range of students with exceptionalities in their regular physical education class. The scale used to answer the 15 items are: strongly disagree (SD), disagree (D), undecided (U), Agree (A), and strongly agree (SA). The PEJI has an attached cover page that has a set of general directions and definition of inclusion (Hodge et al., 2002). The PEJI also includes a disability-specific definition page for participants unfamiliar with the terminologies. This page comprises the following disabilities: hard of hearing, learning disability, mild disabilities, physical disability, severe disabilities, and visual impairment. There are also ten questions included at the end of the survey to collect demographic data (e.g., age, gender, ethnic/cultural background) (Hodge et al.,

2002).

This study will use a combination of the PEATID III and the PEJI. The theory most related to this study is the TPB. The TPB has been modified to specifically benefit this study. The modified theory of planned behaviour (Ajzen, 1996) states that attitudes, subjective norms, and perception towards teaching students with exceptionalities physical activity combined together affect teachers' behavioural intentions and behaviour.

Limited studies have used the PEJI since it is relatively new but many have used the PEATID III when comparing pre-service teachers attitudes and physical activity (Kirkendall & Rizzo, 1995; Kowalski & Rizzo, 1996, Rizzo & Kirkendall, 2003). Limited studies have focused on comparing in-service teachers attitudes with school based physical activity. Using the PEATID III (e.g., TRA) and the PEJI (e.g., TPB) to compare these two variables may help teachers and school divisions find the gaps in school based physical education and students with exceptionalities.

2.3 Summary

Implementing physical activity into schools is important, since schools are an ideal place to educate and promote physical activity to students and parents (Corbin & McKenzie, 2008). Schools have a variety of opportunities within the education system to promote physical activity and healthy living (e.g., biology, cooking, physical education) (Shaya et al., 2008). Unfortunately, public schools have encountered road blocks in trying to implement physical activity into schools, such as: support from students' family, negative attitudes of teachers, and the inability to participate and teach physical activity. Physical education classes are too structured and need to be changed (Williams & Germain, 2008). Physical education needs to be fun for the students. If it is not fun,

then individuals will not participate in activities (Williams & Germain, 2008). The best way to implement fitness and healthy living in kids is to properly train physical education teachers (Corbin & McKenzie, 2008). Teachers are not equipped with the knowledge of how to teach physical education and have not been properly taught by universities. “Over time content of classes offered at University have become disconnected with physical education ...courses have become less relevant for pre-service teachers” (Corbin & McKenzie, 2008, p. 48). Other researchers have questioned pre-service teachers and considered what the universities needed to know to attract pre-service students who were entering physical education programs (O’Bryant, O’Sullivan, & Raudensky, 2000).

Research studies have shown that the amount of pre-service physical education courses and prior knowledge do affect teachers’ attitudes towards teaching inclusive physical education (Faulkner & Reeves, 2000; Kirkendall & Rizzo, 1995). The question may be how many adapted physical education courses would be needed for a pre-service teacher to feel confident in teaching students with exceptionalities? Studies have shown the need for universities to design an encompassing physical education program for pre-service students (O’Bryant et al., 2000; Kowalski & Rizzo, 1996; Parks et al., 2007). Some of these needs include: more adapted physical education courses to prepare pre-serviced teachers, prior experience in working with students with exceptionalities before being accepting into university, and valuing physical activity daily themselves (Faulkner & Reeves, 2000; Parks et al., 2007; O’Bryant et al., 2000). If the teachers’ were confident in teaching physical activity, this confidence would affect their attitudes (e.g., positive) towards teaching students who are typically achieving and exceptional during physical education (O’Bryant et al., 2000). Kowalski and Rizzo (1996) claimed that one of the

most important factors contributing to a successful physical education program is the attitude of the educator. Therefore, this research study explored teachers' attitudes and school based physical activity for students with exceptionalities.

Chapter 3: Methodology

3.1 Nature of the Study

The purpose of this study was to: (1) explore in-service teachers' perceptions of the benefits and barriers physical activity had on students with exceptionalities in a diverse classroom; and (2) examine in-service teachers' perceptions of physical activity and how their attitudes affected student's learning. The following research questions guided this study:

1. How do teachers' characteristics relate to their attitudes toward teaching physical education to students with exceptionalities?
2. How do teachers' attitudes toward instructing students with exceptionalities differ with varying levels of experience and pre-service training?

3.2 Participants

One hundred and fifty eight in-service, postgraduate (teachers taking courses in Education) and graduate teachers (teachers taking graduate level courses) volunteered to participate in this study. All participants had a bachelor degree in Education and were working full time as a classroom teacher. In-service teachers teaching in Kindergarten to grade 12 classrooms were either employed with a rural school division in Central Saskatchewan or a rural school division in the West Kootenay of British Columbia. Most elementary schools expect all of their teachers to teach physical activity. In high school, specialized teachers (i.e. teachers with a major or degree in physical education) are typically expected to teach physical education. Therefore, all teachers within the

elementary schools (K-8) were asked to complete every question in the survey. High school teachers that were not specialized in physical education were asked to only complete questions 1 to 5 and the demographic questions within the survey. These questions were general teaching questions that all teachers could answer without being specialized in physical education, while the remaining questions in the survey were applicable to teachers who have taught P.E. High school teachers that taught physical education or were specialized in physical education were asked to complete the entire survey.

Focusing on all grades (e.g., kindergarten to grade 12) was important for this study since all students from kindergarten to grade 12 should be participating in daily physical activity. Targeting all teachers gave a wide-range of perceptions and information on how their attitudes may have affected students' perception of physical activity and the atmosphere of the school (e.g. promoting positive physical activity).

3.3 Instrumentation

3.3.1 Physical Educators' Attitude Towards Teaching Individuals with Disabilities- III (Original Survey). The first instrument, Physical Educators' Attitude Towards Teaching Individuals with Disabilities- III (PEATID III), was developed by Rizzo (1993). The questionnaire was composed of 12 items answered on a five-point Likert-type scale (e.g., strongly disagree, disagree, undecided, agree, and strongly agree) and divided into 3 subscales: (1) outcomes of teaching students with disabilities in regular classes (6 items); (2) effects on student learning (4 items); and (3) need for more academic preparation to teach students with disabilities (2 items). The questionnaire also included demographic questions relating to the participant (e.g., gender, age, teaching

experience, and experience teaching individuals with exceptionalities). This survey required participants to rate their beliefs toward four specific exceptionalities (Emotional/Behavioural Disorder, specific learning disability, mild-moderate mentally impaired, and moderate-severely mentally impaired; Rizzo, 1993) which allowed the researcher to study the series of statements which express teachers' attitudes about teaching students with exceptionalities in a regular physical education class.

Researchers since the 1980s have been using Rizzo's PEATID III to analyze teachers and pre-service teachers' attitudes towards teaching students with exceptionalities (Hodge, Murata & Kozub, 2002). Most recently, Folsom-Meek and Rizzo (2002) conducted a survey to assess the validity and reliability of the PEATID III for future professionals (Hodge et al., 2002). Three thousand four hundred and sixty-four undergraduate students enrolled in an introductory adapted physical education course at 235 colleges and universities completed this survey. Results showed that the PEATID III survey measured three areas: (1) outcomes of teaching students with disabilities in regular classes, (2) effects on student learning, and (3) need for more academic preparation to teach students with exceptionalities (Folsom-Meek & Rizzo, 2002; Hodge et al., 2002). The PEATID's III underlying foundation is based on the theory of reasoned action (TRA). The individual's behavior is determined by their intention to perform the behavior and that this intention is a function of their attitude toward the behavior and their subjective norm. The TRA is best used to predict behavioural intention (Ajzen, 1980; Kowalski & Rizzo, 1996). Kowalski and Rizzo (1996) stated that the TRA "assesses beliefs underlying attitudes and social norms which provide an understanding of the basis of teaching individuals with disabilities" (p.184). Limitations were identified

when using the PEATID III (Folsom-Meek & Rizzo, 2002). For example, one limitation was that the survey was given and completed during class time, putting the data at risk of being biased. Pre-service students could have responded the way they thought the researchers would like them to respond (perceived behaviour control). Socially desirable responses are hard to control when conducting a survey. Folsom- Meek and Rizzo (2002) claimed that possibly “giving a socially desirable response is a first step in developing a favourable attitude” (p. 150).

Another limitation of the PEATID III was that it does not consider gender or experiences participants may have had before entering the college and university (Folsom-Meek & Rizzo, 2002). Research has shown that previous experience in physical activity does affect how a teacher would teach physical education (O’Bryant et al., 2000). Lastly, Folsom-Meek and Rizzo (2002) stated, “this study did not address the assumption of the theory that beliefs and attitudes help contribute to predicting intention and behaviour” (p. 150). Hodge et al., (2002) stated that the PEATID III focused only on measuring beliefs, not attitudes. Without measuring attitudes, Hodge et al. (2002) claimed Rizzo “assumed that attitudes influence behaviours but does not test this assumption” (p. 436). However, Kowalski and Rizzo stated:

Behaviour and intention can only be understood and predicted when attitudes and social norms are tracked to underlying beliefs and teaching individuals with disabilities. Beliefs represent a person’s past experience and knowledge and new information-considered external variables. These external variables are indirectly related to attitudes, subject norms, intention, and behaviour. (p.184)

Despite these limitations, Rizzo and colleagues constructed a widely used survey to

measure physical educators' attitudes toward teaching individuals with exceptionalities with some accumulated evidence of validity and reliability (PEATID III). The PEATID III is only one instrument and may not measure all the variables related to teachers' beliefs and attitudes toward physical activity and students with exceptionalities (e.g. prior experience). Therefore, a second instrument, Physical Educators' Judgments About Inclusion (PEJI), was used to complement the PEATID III (Hodge et al., 2002).

3.3.2 Physical Educators' Judgment about Inclusion. Hodge, Murata, and Kozub (2002) designed and collected validity and reliability evidence for the instrument called Physical Educators' Judgments About Inclusion (PEJI). The PEJI was developed to be “used in physical education teacher education (PETE) programs that would yield valid evidence of the judgments of PETE pre-service teachers toward the inclusion of students with disabilities into general physical education classes” (p. 435).

Hodge et al. conducted a five year pilot study to develop the PEJI. Unlike Rizzo, Hodge and colleagues (2002) used the “theory of planned behaviour (TPB) that perceived behavioural control is a factor that influences learning and attitude change” when designing the PEJI survey (p. 436). Hodge and colleagues (2002) “noted the importance of structuring some judgment statements so that they referred to behaviours rather than persons or attributes” (p. 439).

Hodge et al., (2002) were not influenced solely by one theory. Three theoretical orientations influenced the development of the PEJI: social judgment theory, contact theory, and TPB.

Pilot studies gathered information from pre-service teachers and adapted physical education teachers, resulting in various statistical analyses that reduced the PEJI from 67

to 15 items. These items focused on inclusion in regular physical education classes and how teachers felt about having a diverse range of students with exceptionalities in their regular physical education class. A five item Likert-scale was used to rate the 15 items: strongly disagree (SD), disagree (D), undecided (U), Agree (A), and strongly agree (SA). These 15 items are divided into three factors: (1) judgement about inclusion (5 items); (2) judgement about acceptance of students with disabilities (4 items); and (3) judgements about perceived training needs (6 items). The PEJI has an attached cover page with a set of general directions for users that states the purpose of the survey and what the participant needs to know if they decide to complete it. The cover page includes a definition of inclusion. Inclusion “is defined as an approach that supports the placement of all students with different abilities and disabilities (mild to severe) in regular physical education classes with peers in their neighborhood schools” (Hodge et al., 2002). The adapted version of this definition was used in the adapted survey used in this study (see p. 79). The PEJI also includes a disability-specific definition page for participants unfamiliar with the terminologies. This page defines the following disabilities: hard of hearing, learning disability, mild disabilities, physical disability, severe disabilities, and visual impairment. Ten questions are also included at the end of the survey to collect demographic data (e.g., age, gender, ethnic/cultural background) (Hodge et al., 2002) on the respondents.

The PEJI is a relatively new survey, therefore; it has not been used widely by other researchers. Other limitations of the PEJI were the “use of intact classes, convenience sampling design, and a need for study on use of the PEJI to determine pre and post judgments relating to different types of training experiences” (Hodge et al.,

2002, p. 448). This is stated as a limitation since it is hard to determine valid evidence of validity when measuring pre and post judgments (Hodge et al., 2002).

Hodge et al., (2002) stated, “researchers ought to have access to valid alternative measures because not one instrument can measure all variables or accommodate all psychological constructs or theoretical orientation” (p. 437). Therefore, the PEATID III and the PEJI will be used in this study to explore physical activity and teachers’ attitudes in school-based activity for students with exceptionalities.

3.3.3 Adapted Surveys. Adapted versions of the *Physical Educators’ Attitude Toward Teaching Individual with Disabilities-III (PEATID-III)* (Rizzo, 1993) and the *Physical Educators’ Judgement about Inclusion (PEJI)* (Hodge, Murata, & Kozub, 2002) were used in this study. The amalgamated adapted survey was titled, *Physical Educators’ Judgments and Attitude Towards Teaching Individuals with Exceptionalities*. Changes were made to the terminology and definitions for students with exceptionalities to be more current. For example, the term moderate to severely mentally impaired was changed to moderate to profound intellectual disability. In addition, students were labeled as identified students, the term nondisabled students were changed to typically achieving students, and the term disability was changed to exceptionality. The term, moderate to severely mentally impaired was also replaced with Attention Deficit-Hyperactivity. This change was made since the focus on this study was high incidence exceptionalities with the exception of moderate to profound intellectual disability. No questions were omitted from the PEATID III survey, but two questions from the demographic section (e.g., how many years have you taught physical education and have you taken any developmental/adapted physical education courses) were omitted. These

questions were omitted since the participants were not just physical education teachers, but classroom teachers as well.

The PEJI was modified to complement the PEATID III. Aspects of this survey that were changed included terminology changes. Specifically, the learning disability definition was kept in the definition of terms, but was changed to a more current definition used by the Canadian Learning Disabilities Association (2002). However, the other terms used for the original PEJI survey were not used in the adapted amalgamated survey; the PEATID III terms were used instead. The PEATID III survey has been more widely used for research unlike the PEJI survey, hence, the reason to use the PEATID III terms instead of the PEJI terms. This was done to keep consistency throughout the survey since the PEJI and the PEATID III were combined. Terminology was also changed to more current terminology (e.g., disabilities into exceptionalities, and severe disabilities to moderate to profound disabilities). All 15 questions within the PEJI were kept with minor terminology changes. Many of the background questions in the PEJI were omitted either because most were duplicates from the PEATID III or did not serve a purpose for this exact study (e.g., ethnic/cultural background, are you pursuing a college degree, do you already have a college degree). No changes were made to the factors from the original survey instruments (i.e., three factors from the PEATID III remained, and three factors in the PEJI).

The finalized version of the survey titled, *Physical Educators' Judgments and Attitude Towards Teaching Individuals with Exceptionalities* consisted of 63 attitude statements and a demographic information section to obtain information on participants' personal characteristics (i.e., gender, age, and years of teaching physical activity). One

question was added to the demographic information to gain an understanding of the level of fitness participants perceive themselves to be at (i.e., What would you rate your fitness level as?).

3.4 Data Collection

Cover letters addressed to the Superintendent of the West Kootenay Columbia School Division No. 20, Prairie Spirit School Division No. 206, and to school principals briefly outlined the research project and described the study and the expectations of the researcher (see Appendix D). Once permission was granted by each school division, an individual written request was made to individual principals to invite in-service teachers from their schools to participate in this study. The surveys were emailed to superintendents and were decided how the survey should be distributed. Superintendents emailed all principals, who emailed all the teachers the survey. No paper surveys were requested by either district. In-service teachers who wished to participate were asked to complete the survey (either on-line with survey monkey or paper version), which implies consent, and to return the survey on-line or in the provided unmarked envelope.

Postgraduate and graduate students currently taking university classes were requested to participate by an email from their professors containing the link to the on-line survey.

Completed paper surveys in the Kootenay Columbia school district No. 20 and Prairie Spirit school division No. 206 were picked up by the researcher and/or mailed to her supervisor Dr. Laureen McIntyre within two weeks of their distribution.

3.5 Data Analysis

Data was entered and analyzed using the Statistical Package for the Social Sciences (SPSS Inc., 2012). Data entered was checked by two individuals, to ensure 100%

accuracy when entering questions and demographic questions.

Demographic information collected from in-service teachers in this survey included: age, gender, level of education, experience teaching students with exceptionalities, and fitness level. Pearson correlation was used to examine the relationship between demographic information on in-service teachers. The dependent variables for this study were the original three subscales from the PEATID III survey and the original three subscales from the PEJI survey: (a) outcomes of teaching students with exceptionalities in regular classes, (b) effects on student learning, (c) need for more academic preparation to teach students with exceptionalities, (d) judgment about inclusion, (e) judgments about acceptance of students with exceptionalities, (f) judgments about perceived training needs.

Subscale one of the PEATID III, outcomes of teaching students with exceptionalities in regular classroom, was composed on six outcome beliefs. These beliefs included that students with exceptionalities: (1) would not be accepted by peers, (2) would disrupt harmony of the class, (3) would cause unfair burden on teachers, (4) would cause more work for the teacher, (5) should not be taught in regular classes as require too much teacher time, and (6) should be taught in a regular class whenever possible (Folsom-Meek & Rizzo, 2002). Each belief statement (6 items) was used to evaluate subscale one. An example of a question in the survey for this subscale was: identified students will not be accepted by their typically achieving peers in my regular physical education classroom. If respondents scored high on this subscale, it would indicate that teaching students with exceptionalities in the regular classroom was not viewed as ideal for the teacher or for the students. If respondents scored low on this subscale, this would indicate that the outcome

of teaching students with exceptionalities in the regular classroom was viewed to be ideal. That is, respondents believed students with exceptionalities should be taught in the regular classroom.

Subscale two of the PEATID III, effects on student learning, contained four items that represented students with varying abilities learning together in physical education (Folsom-Meek & Rizzo, 2002). These four items were: (1) both groups of students work together, (2) working together motivates students without exceptionalities, (3) students with exceptionalities will learn more rapidly in classes with peers, and (4) students with exceptionalities will have more positive self-concept as a result of students being successful in regular classes. For example, a question used within the survey for this subscale was: one advantage of teaching identified students in my regular physical education classes with typically achieving students are that all students will learn to work together toward achieving goals. Higher scores for subscale two would indicate that respondents viewed students with varying abilities as benefitting from learning together in physical education (i.e., all students working together, developing a positive self-concept). A low score would indicate that respondents viewed students with exceptionalities in regular classes with typical students as not benefitting from learning together (i.e, low positive self-concept, students not working together).

Subscale three of the PEATID III was the need for more academic preparation to teach students with exceptionalities. Four items were used for subscale three to identify the need for more academic preparation to teach students with exceptionalities. This subscale was also related to the need for more additional coursework and academic preparation. A question used in the survey that represented this subscale was: As a

physical education teacher, I do not have sufficient training necessary to teach identified students with typically achieving students in my regular physical education classes.

Higher scores for subscale three would indicate that teachers feel they need more academic preparation in order to teach students with exceptionalities effectively. If respondents had lower scores on the subscale, this would indicate that teachers felt they did not need more academic preparation in order to teach students with exceptionalities effectively.

The PEJI consisted of 15 items, which was grouped into three subscales (Hodge, Murata, & Kozub, 2002). Subscale one, judgement about inclusion, focused on the key judgements that make up the inclusion philosophy. For example, a question used in the survey to represent this subscale was: Inclusion is an idealistic philosophy that will not work in regular physical education. If respondents scored high (reversed score) on the subscale, it would mean that inclusion could work in regular physical education. If respondents scored low on the subscale, this would mean that inclusion is not ideal and would not work in regular physical education. Subscale two, judgement about acceptance, addressed acceptance of students with a wide range of exceptionalities. For example, a question pertaining to acceptance in the survey was: I would readily accept teaching a student with a learning disability in regular physical education. If respondents scored high on this subscale, the judgement about acceptance would be high. That is, the teacher would accept students with a wide range of exceptionalities in his or her class. Subscale three, judgement about perceived training needs, represented teachers' perceived need for continued quality training. An example of a question used to represent this subscale was: To be prepared to teach students with disabilities, I need

course work that provides me with knowledge about a wide range of disabilities from mild to severe. If respondents scored high on this subscale, this would indicate that they see a need for course work that would provide teachers with knowledge about a wide range of exceptionalities. If respondents scored low on this subscale, this would indicate that they saw no need to provide teachers with course work to gain knowledge about a wide range of exceptionalities.

All six subscales were used as dependent variables in this study. Questions in these factors explored teachers' characteristics and attitudes toward instructing students with exceptionalities toward teaching physical activity. These variables also explored how varying levels of experience and pre-service training affected teachers' attitudes toward instructing students with exceptionalities.

Participant responses were not related to a specific exceptionality but instead encompassed people's opinions of all exceptionalities (e.g., emotional/behavioural disorder, specific learning disability, attention deficit hyperactivity disorder, and mild to profound intellectual disorder).

Research Question 1

The first research question posed was: how do teachers' characteristics relate to their attitudes toward teaching physical education to students with exceptionalities?

Pearson correlation analysis was used to determine the relationship between teacher characteristics (i.e., gender, age, whether participants had taught physical education, participants ratings of fitness) and the teacher attitudes toward teaching physical education to students with exceptionalities (outcomes of teaching students with exceptionalities, effects on student learning, need for more academic preparation,

judgement about inclusion, judgement about acceptance of students with exceptionalities, and judgement about perceived training needs) to investigate if there were any statistically significant relationships. In addition, a t-test was conducted to look at differences between gender (male and female) and perceived training needs.

Research Question 2

The second research question posed was: how do teachers' attitudes toward instructing students with exceptionalities differ with varying levels of experience and pre-service training?

An analysis of variance (ANOVA) was used to examine potential differences between teachers' attitudes toward instructing students with exceptionalities and the independent variables (number of special education courses taken, years of teaching experience with exceptionalities, and number of adapted PE courses taken). All six factors of the dependent variables were examined compared with independent variables to find potential differences between teachers' attitudes toward instructing students with exceptionalities and varying levels of experience and pre-service training.

Results of the data analyses are presented in Chapter 4 of this study, and the discussion in Chapter 5.

CHAPTER 4: RESULTS

4.1 Overview

In-service, postgraduate, and graduate teachers were asked to respond to the survey *Physical Educators' Judgment and Attitude Towards Teaching Individuals with Exceptionalities* to explore how their attitudes and level of experience were related to how they taught students with exceptionalities in regular physical education classes. This survey examined three factors from the PEADID III (outcomes of teaching students with exceptionalities in regular physical education classes; effects on student learning; and need for more academic preparation in teaching students with exceptionalities) and three factors from the PEJI (judgment about inclusion versus exclusion; judgments about acceptance of students with disabilities; and judgments about perceived training needs).

Participants' Characteristics

One hundred and fifty-eight in-service, postgraduate, and graduate teachers participated in this study. All participants possessed a bachelor degree in education and were working full time as a classroom teacher. Of these participants, 98 were female and 36 were male, with 24 not responding to the question. Out of the 134 participants that responded to teaching physical education (PE), 111 indicated they had taught PE with 23 stating they have never taught PE (see Table 4.1).

Of the 158 participants 70.3% had taught physical education (P.E), and only 14.6% had not taught P.E. at all. Out of the 126 participants that responded, 5.7% had taken adapted undergraduate P.E. courses, 1.3% had taken adapted graduate courses, and 1.3% had taken adapted undergraduate and graduate P.E. courses. In addition, 132 participants had experience teaching students with exceptionalities in a P.E. class and

Table 4.1

Participants' Demographic Information

Taught Physical Education	N	%
NR	24	15.2
Yes	111	70.3
No	23	14.6
Total	158	100.0
P.E Adapted Courses	N	%
NR	32	20.3
None	112	70.9
Undergraduate	9	5.7
Graduate	2	1.3
Undergraduate and graduate	2	1.3
Total	158	100.0
Total	158	100.0
Experience teaching individuals with exceptionalities	N	%
NR	26	16.5
Yes	128	81.0
No	4	2.5
Total	158	100.0

Note. N = sample size, % = percentage, NR = no response

21.5% rated their experience as very good, 48.7% as satisfactory, and 8.2% as not good.

Research Question 1

The first research question explored was: How do teachers' characteristics relate to their attitudes toward teaching physical education to students with exceptionalities?

Pearson correlation analysis was used to determine the relationship between independent variables (i.e., gender, age, taught physical education, how would you rate your fitness) and the dependent variables (outcomes of teaching students with exceptionalities in a regular classroom, effects on student learning, the need for more academic training, judgments about inclusion versus exclusion, judgment about acceptance of students with exceptionalities, and judgments about perceived training needs). The adapted versions of PEATID III and the PEJI were amalgamated, therefore to run the analysis the dependent variables from each of the original surveys were separated (i.e., each survey had three factors). Significance was identified at the 0.01 and 0.05 level. Cohen (1988) identified correlation descriptives from: 0.0 to 0.1 were trivial or very small; 0.1 to 0.3 were small or low; 0.3 to 0.5 were moderate or medium; 0.5 to 0.7 were large or high; 0.7 to 0.9 were very large or very high; and 0.9 to 1 was nearly perfect or infinite.

A statistically small significant positive correlation was found between the dependent variable PEATID III subscale 3 (the need for more academic training) and the independent variable teaching physical education, $r(158) = .139, p < .05$. A very high positive correlation was found between the dependent variable PEATID III subscale 1 (outcomes of teaching students with exceptionalities in regular class) and the dependent variable PEATID III subscale 2 (effects on student learning), $r(158) = .703, p < .01$.

Small positive correlation between the PEATID III subscale 2 (effects on student learning) and the PEATID III subscale 1 (outcomes of teaching students with exceptionalities in regular class), $r(158) = .256 < .01$. Two statistically significant negative correlations were found between the PEATID III subscale 1 (outcomes of teaching students with exceptionalities in a regular class) and: (1) age, $r(158) = -.211$, $p < .05$, and (2) the PEATID III subscale 3 (need for more academic training), $r(158) = -.461$, $p < .01$.

A very high statistically significant positive correlation and a negative correlation were found in the PEJI subscale 3 (judgments about perceived training needs) and: (1) the PEJI subscale 2 (judgment about acceptance of students with exceptionalities), $r(158) = .082$, $p < .01$, and (2) gender, $r(158) = -.293$, $p < .01$. Significant negative correlations were found between the dependent variable PEJI subscale 2 (judgments about acceptance of students with exceptionalities) and: (1) age, $r(158) = -.291$, $p < .01$, and (2) the PEJI subscale 1 (judgment about inclusion and exclusion), $r(158) = -.367$, $p < .01$. A highly significant positive correlation was found between the PEJI subscale 1 (judgment about inclusion versus exclusion) and if the teacher had taught PE (yes or no response), $r(158) = .58 < .05$.

A t-test was conducted to look at the differences between gender (male and female) and perceived training needs. Males were found to have significantly lower perceived training needs than females ($t(115) = 3.28$, $p = 0.001$)

Research Question 2

The second research question explored was: How do teachers' attitudes toward instructing students with exceptionalities differ with varying levels of experience and pre-service training? An analysis of variance (ANOVA) was conducted to see if there were

any differences in teachers' attitudes toward instructing students with exceptionalities and special education courses taken, how many years of teaching experience with exceptionalities, and adapted courses taken.

Significant differences were found between the PEATID III subscale 1 (outcomes of teaching students with exceptionalities in regular classes) and independent variable how many years of teaching experience with exceptionalities.

There was a small significant difference found between the PEATID III subscale 1 (outcome of teaching students with exceptionalities in a regular classroom) and independent variable years of teaching experience with exceptionalities (1-4, 5-9, 10-14, 15-19, 20+), $F(4, 97) = 2.30, p < .01$. Tukey post hoc analyses indicated a significant difference between teaching 20 years and 1-4 years at 0.062 (0.062, $p < .01$), and teaching 20 years compared to 5-9 years at 0.093 (0.093, $p < .01$). Further analysis indicated a difference between teaching 1-4 years and 20+ years of teaching ($N=32, M=44.9688, SD=8.09414$), and 5-9 years and 20+ years of teaching ($N=25, M=44.9200, SD=7.68071$). Interestingly, teachers that taught 1-4 years had a higher mean ($M=44.9688$) and 5-9 years ($M=44.9200$) indicating they had better outcomes of teaching students with exceptionalities in the regular classroom than teachers who had taught 20+ years ($N=25, M=38.9565$).

A significant difference was found between the PEJI subscale 3 (perceived training needs) and independent variable adapted courses taken (none, undergraduate, graduate, undergraduate and graduate) at $F(4,103)=2.618, p < .05$. Tukey post hoc analysis did not indicate any significant differences between the levels of the independent variable.

A detailed discussion of the results and possible implications of the study are presented in chapter five.

CHAPTER 5: DISCUSSION

5.1 Purpose and Procedures

The purpose of this study was to: (1) explore in-service teachers' perceptions of the benefits and barriers physical activity had on students with exceptionalities in a diverse classroom, and (2) examine in-service teachers' perceptions of physical activity and how their attitudes affected students' learning. The research questions guiding this study were: (1) How do teachers' characteristics relate to their attitudes toward teaching physical education to students with exceptionalities? (2) How do teachers' attitudes toward instructing students with exceptionalities differ with varying levels of experience and pre-service training? The following is a discussion of the study's findings, limitations, and possible implications for future research.

5.2 Summary of Findings

Research Question 1

The first research question explored was: How do teachers' characteristics influence their attitudes toward teaching physical education to students with exceptionalities?

Pearson correlation analysis was used to determine the relationship between teacher characteristics (i.e., age, taught physical education, how would you rate your fitness level) and teachers' attitudes toward teaching physical education to students with exceptionalities (outcomes of teaching students with exceptionalities in a regular classroom, effects on student learning, the need for more academic training, judgement about inclusion, judgement about acceptance of students with exceptionalities, and

judgement about perceived training needs).

A small statistically significant positive correlation was found between effects of student learning (PEATID III subscale 2) and teachers who have taught physical education. This finding indicated teachers reported having a better experience in teaching physical education when student learning was positive. Research has shown if physical education teachers are adequately trained (e.g., prior knowledge and additional adapted courses) they will be able to teach all students in their class, resulting in a positive experience for both students and the teacher (Faulkner & Reeves, 2008; Kowalski & Rizzo, 1996; Rizzo & Kirkendall, 1995).

Two negative correlations were found between age and: (1) teaching students with exceptionalities in a regular classroom, and (2) judgement of acceptance of students with exceptionalities. A small statistically significant negative correlation was found between age and teachers wanting students with exceptionalities in their classroom. The older teachers were, the more negative attitudes they had toward wanting students with exceptionalities in their classrooms. That is, older teachers appeared to have less acceptance of teaching students with exceptionalities in a regular classroom than younger teachers. This result could be due to years of teaching experience and having to deal with difficult behaviours exhibited by students with exceptionalities (e.g. screaming outburst, biting, defiance). It could also be that the teachers do not have the experience (e.g., professional development and appropriate course work) in teaching students with exceptionalities. Rizzo and Kirkendall (1995, 2003) reported similar findings in their research. They found that older physical educators had less favourable attitudes than the younger teachers, especially towards older students with more severe disabilities (e.g.

mild to profound intellectual disability). Rizzo and Kirkendall (2003) claimed that the type of disability really affected the teachers' attitude in a negative way. Teachers perceived students with learning disabilities more favourably than students with physical disabilities (Rizzo & Kirkendall, 1995). These results may indicate, older teachers who have been exposed to a variety of students with exceptionalities, may start to feel that they cannot cope within their class. This could be due to extreme behaviour, making the teacher focus more on classroom management rather than PE, or it could be due to the lack of knowledge the teacher possesses in teaching adapted PE to students with exceptionalities. If an older teacher is not willing to enhance his or her knowledge toward their specialty (e.g., physical activity) then students may not benefit from being included in that teacher's classroom (Rizzo & Kirkendall, 1995). This finding shows that teachers' characteristics (e.g., age) do influence their attitudes toward teaching physical activity to students with exceptionalities.

A significant positive correlation was found between the variable taught P.E. and the need for more academic training. Physical education teachers who had more additional training had higher self-reported ratings of their ability to teach physical education to all students than physical education teachers with less additional training (small statistical significance difference). That is, teachers with more academic training (e.g., more than 1 adapted P.E. course) appeared to have more confidence in teaching physical activity. This increased confidence seemed to positively affect their attitudes when teaching school based physical activity for students with exceptionalities. Research supports this finding, in that if teachers lack skills in teaching physical education or do not have courses that focus on physical education and teaching students with

exceptionalities in their training, then they will be unsuccessful in teaching an effective PE class (Faulker & Reeves, 2000; Kowalski & Rizzo, 1996; Parks, Solmon, & Lee, 2007). This could result in a negative attitude towards teaching PE (Faulker & Reeves, 2000; Kowalski & Rizzo, 1996; Parks, Solmon, & Lee, 2007). Problems arise when dealing with teachers who have a negative attitude toward teaching physical education in general. Some of these problems may be refusal to attend professional development days to learn more about adapting their PE class, and/or refusal to teach students with exceptionalities in their class. If teachers have adequate training (e.g., prior experience and adapted courses), their attitude may be more positive since they are more knowledgeable and confident in their teaching. This positive attitude would influence student performance positively if the teacher is targeting all the students in the class (Kowalski & Rizzo, 1996; O'Bryant et al., 2000; Rizzo & Kirkendall, 1995). A similar finding was found between the subscale years of teaching physical education and effects on student learning (highly significant positive correlation). Teachers with more teaching experience tended to score higher on the judgement about inclusion subscale. If the teacher is adequately trained they will feel more competent in their teaching abilities and will be more likely to include students with exceptionalities into their class.

Teachers who rated themselves as better at teaching physical education to students with exceptionalities had more positive views of outcomes of teaching physical activity (very high significant correlation). That is, teachers who felt confident and adequately trained did not feel they needed any additional academic training. Similarly, a high statistically significant negative correlation was found between the need for more academic training and teachers who had positive outcomes when teaching students with

exceptionalities. That is, teachers who reported needing less additional training (relating to students with exceptionalities) had higher ratings of positive outcomes when teaching students with exceptionalities. Teachers who felt positively toward teaching students with exceptionalities (i.e., positive outcomes) felt confident they were skilled in teaching adapted physical education, and did not feel they needed any training. This means teachers with positive attitudes had a higher perceived teaching competence. Research has indicated that positive attitudes of physical educators could be from more academic preparation or prior experience teaching individuals with exceptionalities physical activity (Kowalski & Rizzo, 1995, 1996; O'Bryant et al., 2000).

Statistically significant positive and negative correlations were found with respect to the subscale assessing teachers' perceived training needs. First, teachers who perceived having higher training needs tended to be more accepting of students with exceptionalities. Second, teachers who scored higher on the acceptance scale tended to have lower scores on the judgement about inclusion scale. That is, teachers who reported they would readily accept students with exceptionalities into their classroom, did not support inclusion. If a teacher has higher ratings of accepting students with exceptionalities, one would think that they would be in favour of inclusion as well. There could be many explanations as to why this finding appears to be counter intuitive. One could be that the subscale judgement about inclusion had a few questions that could have been misread by participants. For example, one question stated students with severe disabilities should be taught in separate classes. Teachers could have read this question as a positive statement that students would receive individualized instruction, not realizing the implication that this would mean they did not support the philosophy of

inclusion by responding positively. Participants could have also answered questions inconsistently, making the analysis unclear. For example, the survey presented one statement (e.g., identified students will develop more favourable self-concept as a result of learning motor skills in my regular physical education class with typically achieving peers) and asked participants to respond to four questions related to this statement looking at specific disorders (e.g., emotional behavioural disorder, specific learning disability, ADHD, and moderate to profound intellectual disability). Participants may have only answered the first question (emotional behavioural disorder) ignoring the three remaining questions. In addition to the correlation analyses, a t-test that looked at the differences between males and females and perceived training needs showed male participants had lower perceived training needs compared to the female participants. Within this study male participants felt they did not need more training. This finding could be interpreted to mean male teachers highly value physical activity or have more prior experience than female teachers, making the male teachers feel more confident in their teaching abilities. Another explanation could be that male teachers have an over inflated view on their ability to teach physical education, while female teachers are more reflective and see the need for further training in this area.

Research Question 2

The second research question posed was: How do teachers' attitudes toward instructing students with exceptionalities differ with varying levels of experience and pre-service training?

An analysis of variance (ANOVA) was used to explore potential differences in varying levels of teaching experience and pre-service training. Teachers with less

experience teaching students with exceptionalities (e.g., 1-4 years of teaching experience) appeared to perceive better outcomes for these students in regular classrooms than teachers with 20+ years of experience. Kowalski and Rizzo (1996) had similar findings in that older physical educators had less favourable attitudes toward teaching students with exceptionalities compared to the younger teachers. Explanations for these findings could be that older teachers become more negative about outcomes for teaching students with exceptionalities due to inactivity, not having adapted physical education courses in their training or professional development, or they never taught in a classroom that promoted inclusive practices (Faulkner & Reeves, 2000; Rizzo & Kirkendall, 2003). This finding supports the earlier reported finding in this study that older teachers were less accepting of teaching students with exceptionalities than younger teachers. These findings support previous research that stated the need for more academic training, prior experience, and teaching experience when working with students with exceptionalities (Faulkner & Reeves, 2000; Parks et al., 2007; Rizzo & Kirkendall, 1995). For example, teachers with ample amounts of prior experience and content knowledge have been found to be more prepared after their lessons and to teach with confidence (O'Bryant et al., 2000). Teachers that have taught more than 20 years, may have had negative experiences teaching students with exceptionalities. For example, as teachers advance in their career, they are typically exposed to teaching all types of students (i.e., those with and without exceptionalities) and gain a better understanding of the challenge of dealing with students behavioural and emotional needs when teaching a class. Overall, research supports (e.g., Corbin & McKenzie, 2008; Thomas et al., 2008; William & Germain, 2008) that teachers need to be qualified in PE (Block et al., 1999; Faulkner & Reeves, 2000; O'Bryant et al.,

2000) to teach all students appropriately and effectively (e.g., PE classes carefully planned and structured). If teachers have limited training and are inactive themselves, they will not feel as confident in teaching. This may result in more negative attitudes towards including students with varying abilities and needs in their physical education programs (Kowalski & Rizzo, 1996).

5.3 Conclusion

This study examined how physical activity and teachers' attitudes influenced school-based activity for students with exceptionalities. There has been limited research in the area of teachers' attitudes and how they influence school-based physical activity for children and adolescents with exceptionalities. Therefore, this study explored how teachers' varying levels of experience and pre-service training influenced their attitudes. Significant findings from this study showed that both age and varying levels of experience and pre-service training influenced teachers' attitudes toward teaching physical education to students with exceptionalities.

Literature supports this study's findings that the amount of pre-service physical education courses and prior knowledge does affect teachers' attitudes toward teaching inclusive physical education (Faulkner & Reeves, 2000; Kirkendall & Rizzo, 1995). Studies have shown that teachers are not equipped with the knowledge (e.g., prior experience, appropriate coursework) to teach students with exceptionalities and have not been properly taught by universities (Corbin & McKenzie, 2008). Teachers that are not equipped with the knowledge to teach students with exceptionalities lack confidence (O'Bryant, 2000). This lack of confidence may negatively influence their positive attitudes toward instructing students with exceptionalities. It is clear that the attitude of

the educator is one of the most important factors contributing to a successful physical education program (Kowalski & Rizzo, 1996).

5.4 Limitations

The first limitation in this study was the sample size (N=158). The sample size of this study was relatively small in comparison to the sample size used in the limited number of studies that have been conducted on this topic (e.g., N= 3, 464; Rizzo & Kirkendall, 2003). A small sample limits the generalization of the results. However, this study can be comfortably generalized to male and female in-service teachers working full time in rural schools with 1 to 20 years of experience in British Columbia and Saskatchewan. In addition, the surveys were distributed to teachers working predominantly in rural school board divisions. Results indicated that only ten of the participants had taken adapted courses in physical education. Rural school divisions may have a limited budget and may not focus on hiring specialized teachers like some urban school divisions. Therefore, future studies may wish to expand the generalizability of their results by sampling a more diverse population of teachers from other universities and urban and rural school divisions.

The second limitation was the limited reliability and validity evidence for the PEJI survey. This survey was fairly new (2002) and it was difficult to find current articles that used the PEJI to compare findings, unlike the PEATID III that has been used widely to measure attitudes. Future research studies using the PEJI survey should endeavor to collect valid and reliability evidence to ensure findings actually assess teacher attitudes toward teaching physical education in a consistent manner.

The third limitation was that participants may have been negatively impacted by

primarily offering the survey online. Teachers were told they could ask for a paper copy of the survey, but none were requested. Conducting the survey on-line may have lowered the respondent numbers if teachers felt they were not able to navigate an online survey or they did not have convenient access to a computer in their work environment. Future studies may wish to have technical support (e.g., a live chat feature so individuals can receive online help navigating the survey if needed) provided to teachers that may need assistance in completing the on-line survey. Additional technical support may increase participation by alleviating the stress and hassle of trying to navigate an on-line survey by themselves.

5.5 Future Directions

There is a limited amount of published research regarding school-based physical activity and teachers' attitudes for students with exceptionalities. This suggests the need for future researchers to look more in-depth at school-based physical activity and the effects teachers' attitudes have on teaching students with exceptionalities. Implementing physical activity programs into schools has proven to be difficult due to budget cuts and the inability for schools to collaborate and integrate physical activity programs within all subjects to effectively engage students in daily physical activity. Further studies may want to focus on how schools' physical activity programs are being implemented and how to best implement physical activity programs in order to encompass a positive physical activity culture for all students and teachers. Focusing on a variety of university programs throughout Canada can also provide more information on how different universities support new teachers to feel competent and confident in teaching students with exceptionalities in the regular physical education class. Universities may need to

add more adapted physical education courses as a requirement in their education training program or expect pre-service teachers to have prior experience working with students with exceptionalities before acceptance. If universities required pre-service teachers to take more than one adapted physical education class, it could help pre-service teachers feel more adequately trained and confident in teaching students with exceptionalities.

If participants are recruited from university programs then future studies should identify participants as in-service, postgraduate or graduate teachers in order to gain more useful information about participants. This demographic information would be useful to identify where there is a need to implement more training (e.g., age, fitness level, university level, and prior knowledge), or to see which groups had the most training and how these characteristics relate to their attitudes when teaching students with exceptionalities.

It would also be interesting to look further at the possible connection between teachers' attitudes and their personal physical competency to see if this variable affects their attitude in a positive or negative way when teaching physical activity. Limited research has shown that if a teacher values physical activity they will have a positive attitude while teaching physical activity (Faulkner & Reeves, 2000).

The findings of this study support existing literature that has found one of the most important factors contributing to a successful physical education program is the attitude of the educator (e.g., Kowalski & Rizzo, 1996). Teachers may possess a positive attitude towards teaching students with exceptionalities if they have a vast amount of prior knowledge, have taken content courses related to students with exceptionalities, and understand and value physical activity.

APPENDIX A

**PHYSICAL EDUCATORS' ATTITUDE TOWARD TEACHING INDIVIDUALS
WITH DISABILITIES- III SURVEY
(ORIGINAL SURVEY)**

Physical Educators' Attitude Toward Teaching Individuals with Disabilities – III
(Terry L. Rizzo, 1993)

General Directions

This study contains a series of statements, which express beliefs about teaching individuals with disabilities in your regular physical education classes. There are no right or wrong responses. Circle the responses that best describe your beliefs about each statement for each disability.

Enclosed is an explanation of four disabling conditions found in the survey to assist you in your response. Read the descriptions carefully before you begin the study. It is important to respond to the statements using only these descriptions.

Please do not skip any questions. Circle only one response per disability. All responses will be kept confidential.

DESCRIPTION OF DISABILITIES

Emotional/behavioural disorder: The term refers to a condition characterized by one or more of the following behaviour clusters: severely deviant disruptive, aggressive or impulsive behaviours, withdrawn or anxious, general pervasive unhappiness, depressed or wide mood swings, delinquency, hyperactivity, social maladjustment, hypersensitivity. It is usually serviced with a behaviour management program.

Specific Learning Disability: "A specific learning disability is a disorder within the individual which affects learning relative to that individual's potential. The disability interferes with the acquisition, organization, and/or expression of information such as in listening, reading, writing, thinking, and movement. In physical education this student could have difficulty with special awareness.

Mild-Moderate Mentally Impaired: This student would be considered to have an IQ score in the range of 50-80 on standardized intellectual tests. The student will probably develop communication skills and social skills but will lag behind their peers. The student usually can learn vocational and daily living skills but may need guidance and/or assistance in these areas. These students may have difficulty in performing motor skills, and exhibit a short attention span.

Moderate-Severely Mentally Impaired: This student would be significantly sub average in intellectual functioning. They would have an IQ score below 50 on standardized tests. They may not be able to verbally communicate. There is little socialization or interaction. They are totally dependent on others for self-care.

Please, circle the response, which best corresponds to your agreement with each statement and for each labeled disability. Please do NOT skip any.

<p style="text-align: center;">KEY</p> <p>SD = Strongly Disagree</p> <p>D = Disagree</p> <p>U = Undecided</p> <p>A = Agree</p> <p>SA = Strongly Agree</p>

One advantage of teaching students labeled in my regular physical education classes with nondisabled students is that all students will learn to work together toward achieving goals.

- | | | | | | |
|--------------------------------------|----|---|---|---|----|
| 1. Emotional/behavioural disorder | SD | D | U | A | SA |
| 2. Specific learning disability | SD | D | U | A | SA |
| 3. Mild-moderate mentally impaired | SD | D | U | A | SA |
| 4. Moderate-severe mentally impaired | SD | D | U | A | SA |

Teaching students labeled in my regular physical education classes will motivate nondisabled students to learn to perform motor skills.

- | | | | | | |
|--------------------------------------|----|---|---|---|----|
| 5. Emotional/behavioural disorder | SD | D | U | A | SA |
| 6. Specific learning disability | SD | D | U | A | SA |
| 7. Mild-moderate mentally impaired | SD | D | U | A | SA |
| 8. Moderate-severe mentally impaired | SD | D | U | A | SA |

Students labeled will learn more rapidly if they are taught in my regular physical education class with nondisabled students.

- | | | | | | |
|---------------------------------------|----|---|---|---|----|
| 9. Emotional/behavioural disorder | SD | D | U | A | SA |
| 10. Specific learning disability | SD | D | U | A | SA |
| 11. Mild-moderate mentally impaired | SD | D | U | A | SA |
| 12. Moderate-severe mentally impaired | SD | D | U | A | SA |

Students labeled will develop a more favourable self-concept as a result of learning motor skills in my regular physical education class with nondisabled peers.

- | | | | | | |
|-------------------------------------|----|---|---|---|----|
| 13. Emotional/behavioural disorder | SD | D | U | A | SA |
| 14. Specific learning disability | SD | D | U | A | SA |
| 15. Mild-moderate mentally impaired | SD | D | U | A | SA |

16. Moderate-severe mentally impaired SD D U A SA
Students labeled will not be accepted by their nondisabled peers in my regular physical education classes.

17. Emotional/behavioural disorder SD D U A SA

18. Specific learning disability SD D U A SA

19. Mild-moderate mentally impaired SD D U A SA

20. Moderate-severe mentally impaired SD D U A SA

Students labeled in my regular physical education classes with nondisabled students will disrupt the harmony of the class.

21. Emotional/behavioural disorder SD D U A SA

22. Specific learning disability SD D U A SA

23. Mild-moderate mentally impaired SD D U A SA

24. Moderate-severe mentally impaired SD D U A SA

Having to teach students labeled in my regular physical education classes with nondisabled students places an unfair burden on teachers.

25. Emotional/behavioural disorder SD D U A SA

26. Specific learning disability SD D U A SA

27. Mild-moderate mentally impaired SD D U A SA

28. Moderate-severe mentally impaired SD D U A SA

As a physical education teacher, I do not have sufficient training necessary to teach students labeled with nondisabled students in my regular physical education classes.

29. Emotional/behavioural disorder SD D U A SA

30. Specific learning disability SD D U A SA

31. Mild-moderate mentally impaired SD D U A SA

32. Moderate-severe mentally impaired SD D U A SA

Teaching students labeled in my regular physical education classes with nondisabled students means more work for me.

33. Emotional/behavioural disorder SD D U A SA

34. Specific learning disability SD D U A SA

35. Mild-moderate mentally impaired SD D U A SA

36. Moderate-severe mentally impaired SD D U A SA

Students labeled should not be taught in my regular physical education classes with nondisabled students because they will require too much of my time.

37. Emotional/behavioural disorder SD D U A SA

38. Specific learning disability SD D U A SA

39. Mild-moderate mentally impaired SD D U A SA

40. Moderate-severe mentally impaired SD D U A SA

As a physical education teacher, I need more course work and training before I will feel comfortable teaching physical education classes with students labeled with nondisabled students.

41. Emotional/behavioural disorder SD D U A SA

42. Specific learning disability SD D U A SA

43. Mild-moderate mentally impaired SD D U A SA

44. Moderate-severe mentally impaired SD D U A SA

Students labeled should be taught with nondisabled students in my regular physical education classes whenever possible.

45. Emotional/behavioural disorder SD D U A SA

46. Specific learning disability SD D U A SA

47. Mild-moderate mentally impaired SD D U A SA

48. Moderate-severe mentally impaired SD D U A SA

A FEW FINAL QUESTIONS ABOUT YOURSELF

Identify your gender. Female Male

What is your age? _____

How many years have you taught physical education? _____

What grade levels are you presently teaching? _____

Do you have a Developmental/Adapted Physical Education teaching license? Yes No

Have you taken any Developmental/Adapted Physical Education courses?

Undergraduate? Yes No

Graduate? Yes No

Have you taken any Special Education courses? _____

Undergraduate? Yes No

If so, how many courses? _____

Graduate? Yes No

If so, how many courses?

Have you had any experience teaching individuals with disabilities? Yes No

How many years have you taught individuals with disabilities? _____

Rate the quality of your teaching experience for individuals with disabilities.

No experience

Not good

Satisfactory

Very good

If you have been around or worked with individuals with disabilities, what disability (is) did they have?

How competent do you feel teaching students with disabilities?

Not at all

Somewhat

Very

THANK YOU FOR YOUR HELP!

APPENDIX B

PHYSICAL EDUCATORS' JUDGEMENT ABOUT INCLUSION INSTRUMENT (ORIGINAL SURVEY)

Physical Educators' Judgment about Inclusion Instrument

(Hodge, Murata, & Kozub, 2002)

I am conducting a survey to help determine your thoughts about including students with disabilities in general physical education. Therefore, we're asking for your input. The following pages contain a set of statements and questions that are posed to stimulate your thinking about teaching students with disabilities (mild to severe) in inclusive physical education classes.

- For purposes of this survey, **inclusion** is defined as an approach that support the placement of all students with different abilities and disabilities (mild to severe) in general physical education classes with peers in their neighborhood schools (Block, 1994)
- **Your participation in completing this survey is voluntary**
- Circle the response that best describes your position.
- **There is no right or wrong answer to a statement; and you may skip questions that you do not wish to answer**
- For a point of reference, see the next "Definition of Term" page.
- All responses will be kept confidential

Definitions of Terms

Hard-of-Hearing. This child/youth is said to have a condition that makes hearing difficult, but does not prevent the understanding of speech through use of her/his ears alone, with or without hearing aids. In physical education this child/youth may require assistance from an interpreter and/or peer to communicate with others, particularly in group situations (Sherrill, 1998).

Learning Disability. This child/youth has normal or better intelligence. He/she has a disorder in one or more basic psychological processes involved in understanding or in using language, spoken or written; may be hyperactive, exhibit perceptual-motor problems, emotional immature, have attention deficits; and need help developing appropriate play behaviours (Sherrill, 1998).

Mild Disabilities. This child/youth consistently falls below normal in educational performance. In PE classes, this child's motor performance is often delayed, clumsy or awkward and as a result he/she may exhibit low self-esteem about his/her body and movement capabilities (Sherrill, 1998).

Physical Disability. In this study, this child/youth has paralysis that involves both the central and autonomic nervous systems; adversely affect body movements, sensations (e.g., feel, touch), and/or vital bodily functions. He/she may be a paraplegic (paralysis of both legs), or quadriplegic (paralysis of both arms and legs, and trunk) caused by severe cerebral palsy, spinal cord injuries, spina bifida, or other orthopedic defects. He/she uses a wheelchair (Sherrill, 1998).

Severe Disabilities. This child/youth has a chronic disability, which is attributed to a mental or physical impairment or a combination of both. This results in substantial functional limits in self-care, learning, mobility, receptive/expressive language, and capacity for independent self-directed behaviours. In PE classes, this child's level of spontaneity is often diminished or absent. He or she engages in few activities and spends a lot of time sitting or lying (Jansma, 1993; Sherrill, 1998).

Visual Impairment. This child/youth has limited vision in one or both eyes and may use corrective lens. This varies from legal blindness (i.e., ability to see at 20 ft what the normal eye

KEY:
 Strongly Disagree = **SD** Disagree = **D** Undecided = **U** Agree = **A** Strongly Agree = **SA**

1. All students with disabilities should be taught in regular physical education (PE).

SD D U A SA

2. Inclusion is an idealistic philosophy that will not work in regular PE classes.

SD D U A SA

3. Students with severe disabilities should be taught in separate classes (e.g., adapted PE).

SD D U A SA

4. Students with severe disabilities always need a one-on-one ration to successfully take part in inclusive physical education activities.

SD D U A SA

5. Given the range of disabilities that can exist, it is unrealistic to expect a regular PE teacher to teach all students who have disabilities in their class.

SD D U A SA

6. I would readily accept teaching a student who is hard of hearing in my PE classes.

SD D U A SA

7. I would readily accept teaching a student with visual impairment in my PE classes.

SD D U A SA

8. I would readily accept teaching a student with a learning disability in my PE classes.

SD D U A SA

9. I would readily accept teaching a student with a physical disability (e.g., a student who uses a wheelchair or crutches) in my PE classes.

SD D U A SA

10. To be prepared to teach student with disabilities I need course work that provides me with knowledge about a wide range of disabilities from mild to severe.

SD D U A SA

11. To be prepared to teach students with mild disabilities I need exposure (e.g., direct contact experience) to students who have mild disabilities during my training.

SD D U A SA

12. To be prepared to teach students with severe disabilities I need exposure (e.g., direct contact experiences) to students who have severe disabilities.

SD D U A SA

13. To be prepared to teach students with mild to severe disabilities it is important that I receive training on activities that includes ideas on lesson planning for a variety of ability levels.

SD D U A SA

14. To be prepared to teach students with mild to severe disabilities I need training in behavioural management strategies and conflict resolution beyond what is necessary to teach students without disabilities.

SD D U A SA

15. To be prepared to teach students with mild to severe disabilities I need to assist effective regular PE teacher actually teaching students with disabilities.

SD D U A SA

A few open-ended questions based on your personal experience and beliefs provide truthful, complete, and thorough responses to the following questions:

16. What do you need to learn about to feel competent teaching students with mild to severe disabilities?

17. Generally speaking, what is your position on the inclusion issue?

18. What are the greatest concerns you have regarding inclusion?

19. What experiences or contacts have you had with individuals with disabilities (be specific)?

20. Where the experience positive or negative? Why?

Some background questions about you – please circle or fill-in the most appropriate response

21. What is your gender? Male.....1 Female.....2

22. What is your age? _____ years

23. What is your ethnic/cultural background?

African American/Black, non- Hispanic 1

Asian/Pacific Islander.....2

Hispanic/Chicano/Latino/a.....3

First Nation/Alaskan Native.....4

White, non-Hispanic.....5

Other.....6 _____ (self-identification)

24. Have you ever taught regular physical education (RPE)? Yes.....1 No.....2

25. If yes, to Question 24, how many years have you taught RPE? _____

26. Are you now pursuing a college degree? Bachelor's...1 Master's...2 Doctorate...3 No...4

27. Do you already have a college degree? Bachelor's...1 Master's...2 Doctorate...3 No...4

28. Are you a PE teaching major? Yes.....1 No.....2

29. In no, what is/was your major? _____

30. How many courses have you taken that dealt *specifically with PE* students with disabilities?
of hours _____

31. How many courses have you taken that (outside of PE) dealt specifically with students with disabilities?
of hours _____

32. Have you had experiences teaching individuals with disabilities? Yes.....1 No.....2

Thank you very much for your help!

APPENDIX C:
PHYSICAL EDUCATORS' JUDGEMENTS
AND ATTITUDE TOWARDS TEACHING
INDIVIDUALS WITH EXCEPTIONALITIES
(ADAPTED SURVEY)

**PHYSICAL EDUCATORS' JUDGEMENTS AND ATTITUDE TOWARDS
TEACHING INDIVIDUALS WITH EXCEPTIONALITIES – Adapted from
PEATID III (Rizzo, 1993) and PEJI (Hodge, Murata, & Kozub, 2002)**

General Directions

This study contains a set of statements which express beliefs about teaching and/or including individuals with exceptionalities in your regular physical education classes. The following pages contain a set of statements and questions that are posed to stimulate your thinking about teaching students with exceptionalities in inclusive physical education classes. There are no right or wrong responses. Circle the response that best describes your beliefs about each statement for each exceptionality.

All responses will be kept confidential.

Circle only one response per an exceptionality.

**ELEMENTARY TEACHERS WHO HAVE OR ARE CURRENTLY TEACHING
PE, PLEASE ANSWER ALL QUESTIONS.**

**HIGHSCHOOL TEACHERS THAT ARE CURRENTLY TEACHING PE, OR
ARE TRAINED TO BE PE TEACHERS, OR HAVE PREVIOUSLY TAUGHT PE,
PLEASE ANSWER ALL QUESTIONS.**

**HIGHSCHOOL TEACHERS THAT HAVE NEVER TAUGHT PE, PLEASE
RESPOND TO QUESTIONS 1-5, OPEN ENDED AND DEMOGRAPHIC
QUESTIONS.**

- For purposes of this survey, **inclusion** is defined as an approach that support the placement of all students with exceptionalities (mild to severe) in regular physical education classes with peers in their neighborhood schools.
- For a point of reference, see the next “Definition of Terms” page

THANK YOU FOR PARTICIPATING!

Definitions of Terms

Exceptionality: Children with behavioural, social, and emotional disturbances, learning difficulties, sensory impairments, speech and communication difficulties, neurological impairments, physical handicaps, intellectual and developmental disability, chronic health problems, and those who are considered gifted or talented in some way (Mash & Dozois, 1999, p. 3).

Identified Student: A student who has been identified with, or labeled as having, an exceptionality (e.g., emotional/behavioural disorders, specific learning disability, attention deficit hyperactivity disorder, mild to moderate cognitive delay).

Emotional/Behavioural Disorder (EBD): The term refers to a condition characterized by one or more of the following behaviour clusters: severely deviant disruptive, aggressive or impulsive behaviours, withdrawn or anxious, general pervasive unhappiness, depressed or wide mood swings, delinquency, hyperactivity, social maladjustment, hypersensitivity. It is usually serviced with a behaviour management program.

Specific Learning Disability: Learning disabilities refers to a number of disorders that may affect the acquisition, organization, retention, understanding or use of verbal or nonverbal information. These disorders affect learning in individuals who otherwise demonstrate at least average abilities essential for thinking and/or reasoning. As such, learning disabilities are distinct from global intellectual disabilities (Canadian Learning Disabilities Association, 2002).

Attention Deficit Hyperactivity Disorder (ADHD): Attention-Deficit/Hyperactivity Disorder is a neurological disorder in children and adults with a persistent pattern of problems in the areas of inattention, hyperactivity and impulsivity. It is a medical diagnosis that requires physician assessment (British Columbia (BC) Ministry of Education, 2010).

Mild to Profound Intellectual Disability: Students with moderate to profound intellectual disabilities have particular learning characteristics. They require support in the development of academic skills, communication skills, cognitive skills, fine and gross motor skills, self-care, life skills and socialization skills. Generally, a student with this level of intellectual functioning is also significantly delayed in social-emotional development. There may also be accompanying sensory, physical and health disabilities (BC Ministry of Education, 2010).

Please, circle the response, which best corresponds to your agreement with each statement

and for each labeled disability. Please do NOT skip any.

KEY SD = Strongly Disagree D = Disagree U = Undecided A = Agree SA = Strongly Agree
--

1. To be prepared to teach student with exceptionalities I need course work that provides me with knowledge about a wide range of exceptionalities from mild to severe.

SD D U A SA

2. To be prepared to teach students with mild exceptionalities I need exposure (e.g., direct contact experience) to students who have mild exceptionalities during my training.

SD D U A SA

3. To be prepared to teach students with severe exceptionalities I need exposure (e.g., direct contact experiences) to students who have severe exceptionalities.

SD D U A SA

4. To be prepared to teach students with mild to severe exceptionalities it is important that I receive training on activities that includes ideas on lesson planning for a variety of ability levels.

SD D U A SA

5. To be prepared to teach students with mild to severe exceptionalities I need training in behavioural management strategies and conflict resolution beyond what is necessary to teach students without exceptionalities.

SD D U A SA

6. To be prepared to teach students with mild to severe exceptionalities I need to assist effective regular PE teacher actually teaching students with exceptionalities.

SD D U A SA

7. All students with exceptionalities should be taught in regular physical education (PE).

SD D U A SA

8. Inclusion is an idealistic philosophy that will not work in regular PE classes.

SD D U A SA

9. Students with severe exceptionalities should be taught in separate classes (e.g., adapted PE).

SD D U A SA

10. Students with severe exceptionalities always need a one-on-one ration to successfully take part in inclusive physical education activities.

SD D U A SA

11. Given the range of exceptionalities that can exist, it is unrealistic to expect a regular PE teacher to teach all students who have exceptionalities in their class.

SD D U A SA

12. I would readily accept teaching a student with emotional/behavioural disorder in my PE classes.

SD D U A SA

13. I would readily accept teaching an identified student in my PE classes.

SD D U A SA

14. I would readily accept teaching a student with a specific learning disability in my PE classes.

SD D U A SA

15. I would readily accept teaching a student with Attention Deficit Hyperactivity Disorder (ADHD) in my PE classes.

SD D U A SA

One advantage of teaching identified students in my regular physical education classes with typically achieving students is that all students will learn to work together toward achieving goals.

16. Emotional/behavioural disorder SD D U A SA

17. Specific learning disability SD D U A SA

18. ADHD SD D U A SA

19. Mild to Profound Intellectual Disability SD D U A SA

Teaching identified students in my regular physical education classes will motivate typically achieving students to learn to perform motor skills.

20. Emotional/behavioural disorder SD D U A SA

21. Specific learning disability SD D U A SA

22. ADHD SD D U A SA

23. Mild to Profound Intellectual Disability SD D U A SA

Identified students will learn more rapidly if they are taught in my regular physical education class with typically students.

24. Emotional/behavioural disorder	SD	D	U	A	SA
25. Specific learning disability	SD	D	U	A	SA
26. ADHD	SD	D	U	A	SA
27. Mild to Profound Intellectual Disability	SD	D	U	A	SA

Identified students will develop a more favourable self-concept as a result of learning motor skills in my regular physical education class with typically achieving peers.

28. Emotional/behavioural disorder	SD	D	U	A	SA
29. Specific learning disability	SD	D	U	A	SA
30. ADHD	SD	D	U	A	SA
31. Mild to Profound Intellectual Disability	SD	D	U	A	SA

Identified students will not be accepted by their typically achieving peers in my regular physical education classes.

32. Emotional/behavioural disorder	SD	D	U	A	SA
33. Specific learning disability	SD	D	U	A	SA
34. ADHD	SD	D	U	A	SA
35. Mild to Profound Intellectual Disability	SD	D	U	A	SA

Identified students in my regular physical education classes with typically achieving students will disrupt the harmony of the class.

36. Emotional/behavioural disorder	SD	D	U	A	SA
37. Specific learning disability	SD	D	U	A	SA
38. ADHD	SD	D	U	A	SA
39. Mild to Profound Intellectual Disability	SD	D	U	A	SA

Having to teach identified students in my regular physical education classes with typically achieving students places an unfair burden on teachers.

40. Emotional/behavioural disorder	SD	D	U	A	SA
41. Specific learning disability	SD	D	U	A	SA

42. ADHD SD D U A SA

43. Mild to Profound Intellectual Disability SD D U A SA

As a physical education teacher, I do not have sufficient training necessary to teach identified students with typically achieving students in my regular physical education classes.

44. Emotional/behavioural disorder SD D U A SA

45. Specific learning disability SD D U A SA

46. ADHD SD D U A SA

47. Mild to Profound Intellectual Disability SD D U A SA

Teaching identified students in my regular physical education classes with typically achieving students' means more work for me.

48. Emotional/behavioural disorder SD D U A SA

49. Specific learning disability SD D U A SA

50. ADHD SD D U A SA

51. Mild to Profound Intellectual Disability SD D U A SA

Identified students should not be taught in my regular physical education classes with typically achieving students because they will require too much of my time.

52. Emotional/behavioural disorder SD D U A SA

53. Specific learning disability SD D U A SA

54. ADHD SD D U A SA

55. Mild to Profound Intellectual Disability SD D U A SA

As a physical education teacher, I need more course work and training before I will feel comfortable teaching physical education classes with identified students with typically achieving students.

56. Emotional/behavioural disorder SD D U A SA

57. Specific learning disability SD D U A SA

58. ADHD SD D U A SA

59. Mild to Profound Intellectual Disability SD D U A SA

Identified students should be taught with typically achieving students in my regular physical

60. Emotional/behavioural disorder	SD	D	U	A	SA
61. Specific learning disability	SD	D	U	A	SA
62. ADHD	SD	D	U	A	SA
63. Mild to Profound Intellectual Disability	SD	D	U	A	SA

Identify your gender. Female Male

What would you rate your fitness level as? _____ Poor _____ Good
Fair _____ Excellent

If yes, how many years have you taught physical education? _____

Have you ever taken any Adapted Physical Education courses? Yes No

Graduate courses? Yes No

Have you taken any Special Education courses? _____

Undergraduate? Yes No

If so, how many courses? _____

Graduate? Yes No

If so, how many courses? _____

Have you had any experience teaching individuals with exceptionalities? Yes No

How many years have you taught individuals with exceptionalities? _____

Rate the quality of your teaching experience for individuals with exceptionalities.

No experience

Not good

Satisfactory

Very good

A few open-ended questions based on your personal experience and beliefs. Please provide complete, and thorough responses to the following questions:

1. What do you need to learn about to feel competent teaching students with exceptionalities?
2. What experiences or contacts have you had with individuals with exceptionalities (be specific)?
3. Where the experiences positive or negative?

That is all – Thank you very much for your help!

APPENDIX D
ETHICS APPROVAL
OF A RESEARCH PROTOCOL
TO THE OFFICE OF RESEARCH SERVICES
UNIVERSITY OF SASKATCHEWAN



UNIVERSITY OF
SASKATCHEWAN

Behavioural Research Ethics Board (Beh-REB)

Certificate of Approval

PRINCIPAL INVESTIGATOR

Laureen McIntyre

DEPARTMENT

Educational Psychology and Special Education

BEH#

11-198

INSTITUTION(S) WHERE RESEARCH WILL BE CONDUCTED

University of Saskatchewan

STUDENT RESEARCHER(S)

Tammy Wilde

FUNDER(S)

INTERNALLY FUNDED

TITLE

Physical Activity and Teachers' Attitudes: Exploring School-based Physical Activity for Students with Exceptionalities

ORIGINAL REVIEW DATE

21-Jul-2011

APPROVAL ON

31-Aug-2011

APPROVAL OF:

Ethics Application
Consent Protocol

EXPIRY DATE

30-Aug-2012

Full Board Meeting ☐

Date of Full Board Meeting:

Delegated Review ☒

CERTIFICATION

The University of Saskatchewan Behavioural Research Ethics Board has reviewed the above-named research project. The proposal was found to be acceptable on ethical grounds. The principal investigator has the responsibility for any other administrative or regulatory approvals that may pertain to this research project, and for ensuring that the authorized research is carried out according to the conditions outlined in the original protocol submitted for ethics review. This Certificate of Approval is valid for the above time period provided there is no change in experimental protocol or consent process or documents.

Any significant changes to your proposed method, or your consent and recruitment procedures should be reported to the Chair for Research Ethics Board consideration in advance of its implementation.

ONGOING REVIEW REQUIREMENTS

In order to receive annual renewal, a status report must be submitted to the REB Chair for Board consideration within one month of the current expiry date each year the study remains open, and upon study completion. Please refer to the following website for further instructions: http://www.usask.ca/research/ethics_review/


John Rigby, Chair
University of Saskatchewan
Behavioural Research Ethics Board

Please send all correspondence to:

Research Ethics Office
University of Saskatchewan
Box 5000 RPO University, 1602-110 Gymnasium Place
Saskatoon SK S7N 4J8
Telephone: (306) 966-2975 Fax: (306) 966-2069

APPENDIX E:
LETTERS OF INTENT

Tammy Wilde
640 Dickens Street
Warfield, BC
V1R 2B6

September 8th, 2011

Dear Greg Luterbach,

RE: Permission to Survey Educators for Master's Research Project

I am a master's student in the Department of Educational Psychology and Special Education at the University of Saskatchewan under the supervision of Dr. Laureen McIntyre. As part of the requirements for the completion of my master's degree, I am conducting research to identify teachers' attitudes and school-based physical activity for students with exceptionalities. Research has shown that one of the most important factors contributing to a successful physical education program is the attitude of the educator (Kowalski & Rizzo, 1996). The project is entitled, *Physical Activity and Teachers' Attitudes: Exploring School-Based Physical Activity for Students with Exceptionalities*.

I am requesting permission to survey classroom teachers, resource room teachers/learning assistance teachers, physical education teachers, and administrators. These individuals have been chosen as part of the target group as they are the ones who do the programming, instructing, and evaluating of students with exceptionalities. Teachers will be invited to voluntarily participate by completing a 15-minute web-based Teacher Survey Form about their attitudes toward physical activity and students with exceptionalities. Paper copies will also be provided for teachers that are more comfortable with written surveys. These raw scores will serve as the data used in the statistical analyses on which the results and discussion of this study will be based. I would like to conduct the survey during September 2011.

The information gathered from teachers who participate in this study will be used for my thesis, scientific publications, and presentations to professionals, parents, and educators. The confidentiality of all information gathered from participants will be ensured. The surveys are anonymous and I will have no access to information linking data to particular individuals, schools, or school divisions. Due to the anonymous nature of the web-based surveys, participants will not be able to withdraw data once it is submitted. If you require further information, please feel free to contact me by phone at (250) 368-6377 or by e-mail at taw001@mail.usask.ca.

Please be informed that this project has been approved on ethical grounds on August 31st, 2011 by the Behavioural Research Ethics Board of the University of Saskatchewan (Ethics Approval #: 11-198). The goal is to have the collection and return of the surveys completed on or near September 30th, 2011. Data regarding my study will be available for those interested in the Education Library at the University of Saskatchewan upon completion of this project.

Thank you for the assistance of your staff, it is very much appreciated.

Sincerely,

Tammy Wilde
Masters Candidate
Department of Educational Psychology and Special Education
University of Saskatchewan

Tammy Wilde
640 Dickens Street
Warfield, BC
V1R 2B6

September 8th, 2011

Dear Lori Jeschke,

RE: Permission to Survey Educators for Master's Research Project

I am a master's student in the Department of Educational Psychology and Special Education at the University of Saskatchewan under the supervision of Dr. Laureen McIntyre. As part of the requirements for the completion of my master's degree, I am conducting research to identify teachers' attitudes and school-based physical activity for students with exceptionalities. Research has shown that one of the most important factors contributing to a successful physical education program is the attitude of the educator (Kowalski & Rizzo, 1996). The project is entitled, *Physical Activity and Teachers' Attitudes: Exploring School-Based Physical Activity for Students with Exceptionalities*.

I am requesting permission to survey classroom teachers, resource room teachers/learning assistance teachers, physical education teachers, and administrators. These individuals have been chosen as part of the target group as they are the ones who do the programming, instructing, and evaluating of students with exceptionalities. Teachers will be invited to voluntarily participate by completing a 15-minute web-based Teacher Survey Form about their attitudes toward physical activity and students with exceptionalities. Paper copies will also be provided for teachers that are more comfortable with written surveys. These raw scores will serve as the data used in the statistical analyses on which the results and discussion of this study will be based. I would like to conduct the survey during September and October 2011.

The information gathered from teachers who participate in this study will be used for my thesis, scientific publications, and presentations to professionals, parents, and educators. The confidentiality of all information gathered from participants will be ensured. The surveys are anonymous and I will have no access to information linking data to particular individuals, schools, or school divisions. Due to the anonymous nature of the web-based surveys, participants will not be able to withdraw data once it is submitted. If you require further information, please feel free to contact me by phone at (250) 368-6377 or by e-mail at taw001@mail.usask.ca.

Please be informed that this project has been approved on ethical grounds on August 31st, 2011 by the Behavioural Research Ethics Board of the University of Saskatchewan (Ethics Approval #: 11-198). The goal is to have the collection and return of the surveys completed on or near October 31th, 2011. Data regarding my study will be available for those interested in the Education Library at the University of Saskatchewan upon completion of this project.

Thank you for the assistance of your staff, it is very much appreciated.

Sincerely,

Tammy Wilde
Masters Candidate
Department of Educational Psychology and Special Education
University of Saskatchewan

Tammy Wilde
640 Dickens Street
Warfield, BC
V1R 2B6

October 19th, 2011

To Whom It May Concern:

RE: Permission to Survey Educators for Master's Research Project

I am a master's student in the Department of Educational Psychology and Special Education at the University of Saskatchewan under the supervision of Dr. Laureen McIntyre. As part of the requirements for the completion of my master's degree, I am conducting research to identify teachers' attitudes and school-based physical activity for students with exceptionalities. Research has shown that one of the most important factors contributing to a successful physical education program is the attitude of the educator (Kowalski & Rizzo, 1996). The project is entitled, *Physical Activity and Teachers' Attitudes: Exploring School-Based Physical Activity for Students with Exceptionalities*.

I am requesting permission to survey classroom teachers, resource room teachers/learning assistance teachers, physical education teachers, and administrators. These individuals have been chosen as part of the target group as they are the ones who do the programming, instructing, and evaluating of students with exceptionalities. Teachers will be invited to voluntarily participate by completing a 15-minute web-based Teacher Survey Form about their attitudes toward physical activity and students with exceptionalities. Paper copies will also be provided for teachers that are more comfortable with written surveys. These raw scores will serve as the data used in the statistical analyses on which the results and discussion of this study will be based. I would like to conduct the survey during October 2011.

The information gathered from teachers who participate in this study will be used for my thesis, scientific publications, and presentations to professionals, parents, and educators. The confidentiality of all information gathered from participants will be ensured. The surveys are anonymous and I will have no access to information linking data to particular individuals, schools, or school divisions. Due to the anonymous nature of the web-based surveys, participants will not be able to withdraw data once it is submitted. If you require further information, please feel free to contact me by phone at (250) 368-6377 or by e-mail at taw001@mail.usask.ca.

Please be informed that this project has been approved on ethical grounds on August 31st, 2011 by the Behavioural Research Ethics Board of the University of Saskatchewan (Ethics Approval #: 11-198). The goal is to have the collection and return of the surveys completed on or near October 31th, 2011. Data regarding my study will be available for those interested in the Education Library at the University of Saskatchewan upon completion of this project.

Thank you for the assistance of your staff, it is very much appreciated.

Sincerely,

Tammy Wilde
Masters Candidate
Department of Educational Psychology and Special Education
University of Saskatchewan

APPENDIX F:
LETTERS OF INSTRUCTION

Tammy Wilde
Masters Candidate
640 Dickens Street
Warfield, BC
V1R 2B6

June 10th, 2011

Dear Participant:

I am a master's student in the Department of Educational Psychology and Special Education at the University of Saskatchewan under the supervision of Dr. Laureen McIntyre. As part of the requirements for the completion of my masters degree, I am conducting a survey to explore teachers' attitudes toward school-based physical activity for students with exceptionalities. This information may assist teachers in pursuing physical activity within the school for students with exceptionalities. There are no known risks of this research study.

All primary and secondary educators, special education teachers, and teacher-librarians employed by Prairie Spirit School Division No. 206 and Kootenay Columbia School Division No. 20 will be invited to participate in this survey. The survey will take approximately **15 minutes** to complete. The raw scores from the survey will serve as the data used in the statistical analyses on which the results and discussion of this study will be based.

The information gathered from teachers who participate in this study will be used for my thesis, scientific publications, and presentations to professionals, parents, and educators. The confidentiality of all information gathered from participants will be ensured. All responses obtained from you will remain confidential. Responses on any material associated with the study will be identified by a code number and not by name, and a pseudonym will be used when referring to the school division. Data from this study will be kept for at least five years by my supervisor. Participation in this survey is completely voluntary. ***Your cooperation in completing this portion of my project would be greatly appreciated.***

If you are interested in participating, please fill in the attached consent form, the voluntary participant incentive letter, and complete the enclosed questionnaire. Please send them by fax to (306) 374-8787 or put them in the designated envelope to be picked up or in the postage paid envelope to be returned by mail to:

Dr. Laureen McIntyre
Assistant Professor in the Department of Educational Psychology and Special Education
28 Campus Drive
College of Education
University of Saskatchewan

Saskatoon, SK
S7N 0X1

The survey has been approved by your Board of Education on _____. In addition, this research has been granted approval by the Research Ethics Office at the University of Saskatchewan on _____. Any questions regarding your rights as a participant may be addressed to that committee through the Office of Research Services (966-2084).

If you have any questions or concerns about this study, I can be contacted by e-mail at taw001@mail.usask.ca, or at my home phone number (250) 368-6377. You may also contact my research supervisor, laureen.mcintyre@usask.ca for more information. If after participating in this study you are interested in the results, a brief executive summary will be available upon request.

Thank you, in advance, for your consideration and cooperation in participating in this project.

Respectfully yours,

Tammy Wide, B.A, B. Ed.
Masters Candidate
Department of Educational Psychology and Special Education
University of Saskatchewan

Dear Teacher:

I am a master's student in the Department of Educational Psychology and Special Education at the University of Saskatchewan under the supervision of Dr. Laureen McIntyre. As part of the requirements for the completion of my masters degree, I am conducting a survey to explore teachers' attitudes toward school-based physical activity for students with exceptionalities. This information may assist teachers in pursuing physical activity within the school for students with exceptionalities. There are no known risks of this research study.

All primary and secondary educators, special education teachers, and teacher-librarians are invited to participate in this survey. The survey will take approximately **10 minutes** to complete. The raw scores from the survey will serve as the data used in the statistical analyses on which the results and discussion of this study will be based. **Once the survey is completed you are eligible to be entered into a draw for a \$100 dollar visa card.** To be entered, you will see in the online survey the last page instructs you to "Click here" to be taken to a separate page to enter your contact details. In this way you can enter for the cash visa card, and we can ensure your responses to the survey are kept anonymous. The winner will be contacted by the end of November 2011.

Survey Link:

<https://www.surveymonkey.com/s/WN756WM>

If you have any questions or concerns about this study, I can be contacted by e-mail at taw001@mail.usask.ca, or at my home phone number (250) 368-6377. You may also contact my research supervisor, laureen.mcintyre@usask.ca for more information. If after participating in this study you are interested in the results, a brief executive summary will be available upon request.

Thank you, in advance, for your consideration and cooperation in participating in this project.

Respectfully yours,

Tammy Wilde, B.A, B. Ed.
Masters Candidate
Department of Educational Psychology and Special Education
University of Saskatchewan

APPENDIX G:
CONSENT FORM

TEACHER CONSENT FORM

Title of Study:

Physical Activity and Teachers' Attitudes: Exploring School-Based Physical Activity for Students with Exceptionalities

Researcher and Supervisor:

Tammy Wilde,
Master of Education candidate
Department of Educational Psychology and Special Education
University of Saskatchewan
E-mail: taw001@mail.usask.ca
Home Telephone: (250) 368-6377

Dr. Laureen McIntyre
Assistant Professor
Department of Educational Psychology and Special Education
University of Saskatchewan
E-mail: laureen.mcintyre@usask.ca
Office Telephone: (306) 966-5266

Purpose of the Study:

The purpose of the study is to explore physical activity and teachers' attitudes within school-based physical for students with exceptionalities.

Specifically, this study will investigate two primary research questions:

1. How do teachers' attitudes affect teaching physical activity to students with exceptionalities?
2. What affect does prior experience and pre-serviced training have on physical education teachers' ability to instruct students with exceptionalities?

Attitudes have been researched in regards to the effectiveness of teaching physical activity to students that are typical and exceptional (Kowalski & Rizzo, 1996). The lack of adapted courses at the undergraduate level have been identified as a negative cause for teachers while teaching students with exceptionalities. Research has stressed the need to increase the content based knowledge at the undergraduate level to promote a positive and active environment at the school level (Kowalski & Rizzo, 1996; Parks et al., 2007). This study collected data to comprehend teacher's attitudes towards teaching school-

based physical activity to students with exceptionalities.

Collecting data will hopefully shed light on the importance of daily physical activity and inspire educators to consistently teach school-based physical activity to students who are typical and exceptional.

As a participant in this study:

1. You are provided with an invitational letter to participate in this study that provides project information, contact information, and research procedures. You are also invited to have your name entered in a draw for a \$100 visa cash card to spend on what you enjoy if you wish to fill out the Participant Incentive Letter.
2. You are asked to sign this consent form, and fill out the Teacher Survey Form that may take 15 minutes to complete. Data will be kept confidential. Consent forms will be stored separately from the survey completed by participants. Identifying information will be removed and replaced with code numbers, so it is not possible to associate a name with any given set of responses. Arbitrary identification codes will be used that will not allow the identification of any individual participants. Therefore, researchers will only have access to anonymous information.
3. You have the right to refuse to answer individual questions.
4. You are asked to complete the consent form, the voluntary participant incentive letter, and the Teacher Survey Tool and then fax them to (306) 374-8787 or put them in the designated envelope to be picked up or in the postage paid envelope and mail them to my graduate supervisor at:

Dr. Laureen McIntyre
Assistant Professor in the Department of Educational Psychology and Special
Education
28 Campus Drive
College of Education
University of Saskatchewan
Saskatoon, SK
S7N 0X1

The raw scores from the survey will serve as the data used in the statistical analyses on which the results and discussion of this study will be based. Data will be kept confidential. The researcher intends to begin data analysis by June 2010.

6. Your data will be stored in a locked cabinet accessible only by the researchers' supervisor, and safeguarded for at least five years. Information identifying participants will be destroyed. After the five year period, the researcher will destroy all data beyond recovery.

If you have any questions concerning the study, please feel free to contact the researcher at the number provided. The University of Saskatchewan Behavioural Research Ethics Board (Beh-REB) has approved this study on ethical grounds on _____. Any questions regarding your rights as a participant may be addressed to that committee through the Research Ethics Office (966-2084). Participants interested in the results of the study will receive an executive summary upon request by contacting the researcher by phone or e-mail.

I have read and understood the description above. I have been provided with contact information to have any questions addressed. I consent to participate in the study described above, understanding that I may withdraw this consent at any time. A copy of this consent form has been provided for my records.

Name of Participant (please print): _____

Signature: _____

Date: _____

Signature of Researcher: _____

Tammy Wilde

Masters Candidate

University of Saskatchewan

APPENDIX H:

**PEARSON CORRELATIONS: PEATID III CORRELATIONS
BETWEEN INDEPENDENT AND DEPENDENT VARIABLES**

Pearson Correlations – PEATID III Correlations between independent and dependent variables

Variable		Gender	Age	Taught physical education	How would you rate your fitness?	PEATID III subscale 1 Outcomes of teaching st's with excep. in reg. class	PEATID III subscale 2 Effects on student learning	PEATID III subscale 3 Need for more academic training
Gender	Pearson Correlation	1	-.020	.048	.139	.054	.055	-.017
	Sig. (2-tailed)		.821	.586	.111	.571	.563	.856
	N	134	132	133	132	113	111	111
Age	Pearson Correlation	-.020	1	.206*	-.149	-.211*	-.116	.178
	Sig. (2-tailed)	.821		.018	.089	.026	.232	.064
	N	132	133	132	131	111	109	109
Taught physical education	Pearson Correlation	.048	.206*	1	-.083	.108	.256**	.139
	Sig. (2-tailed)	.586	.018		.345	.254	.007	.145
	N	133	132	134	132	113	111	111
How would you rate your fitness?	Pearson Correlation	.139	-.149	-.083	1	.081	.028	.127
	Sig. (2-tailed)	.111	.089	.345		.393	.774	.184
	N	132	131	132	133	112	110	110
PEATID III subscale 1 Outcomes of teaching st's with excep. in reg. class	Pearson Correlation	.054	-.211*	.108	.081	1	.703**	-.461**
	Sig. (2-tailed)	.571	.026	.254	.393		.000	.000
	N	113	111	113	112	123	116	110

PEATID III subscale 2 Effects on student learning	Pearson Correlation	.055	-.116	.256**	.028	.703**	1	-.032
	Sig. (2-tailed)	.563	.232	.007	.774	.000		.747
	N	111	109	111	110	116	117	107
PEATID III subscale 3 Need for more academic training	Pearson Correlation	-.017	.178	.139	.127	-.461**	-.032	1
	Sig. (2-tailed)	.856	.064	.145	.184	.000	.747	
	N	111	109	111	110	110	107	113

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

APPENDIX I:
DESCRIPTIVE STATISTICS
FOR DEPENDANT VARIABLES

Descriptive statistics of dependent variables

Descriptive Statistics

	Number of Responses	Minimum Score	Maximum Score	Mean	Standard. Deviation
PEATID III subscale 1 Outcomes of teaching students with exceptionalities	123	16.00	60.00	43.5122	7.91592
PEATID III subscale 3 Need for more academic training	113	22.00	80.00	47.2301	11.29397
PEATID III subscale 2 Effects on student learning	117	51.00	93.00	69.4359	7.10438
PEJI subscale 3 Perceived training needs	134	13.00	30.00	24.1866	3.67304
PEJI subscale 2 Acceptance of students with exceptionalities.	132	9.00	20.00	16.5000	2.35900
PEJI subscale 1 inclusion vs. exclusion	131	6.00	22.00	14.3359	2.71919

Note: A five-point likert scale was used as a rating system in each of the questions used to compile each of the subscales (e.g., 1= strongly disagree, 2= disagree, 3= undecided, 4= agree, and 5= strongly agree)

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